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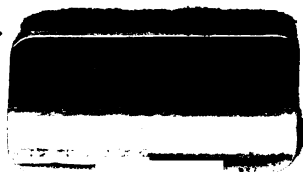
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STATE HORTICULTURAL SOCIETY
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M. A. THAYER.

ANNUAL REPORT
OF THE
Wisconsin State Horticultural Society
FOR THE YEAR 1899.

*Annual Meeting at Madison, February 7, 8, 9 and 10.
Semi-Annual Meeting at Eureka, June 22 and 23.*

VOLUME XXIX.

A. J. PHILIPS, Secretary,
WEST SALEM, WIS.



MADISON
DEMOCRAT PRINTING COMPANY, STATE PRINTER.
1899.

LETTER OF TRANSMITTAL.

To Hon. EDWARD SCOFIELD,
Governor of Wisconsin.

Dear Sir:—I have the honor of presenting to you, as is required by law, the twenty-ninth annual report of the transactions of the State Horticultural Society, embracing the papers read and the discussions which followed at our yearly meetings, one of which was held in the city of Madison in February, 1899, and the other in the village of Eureka the same year.

We have published the reports of the several local societies in the state which show the usual interest in horticulture. We also show the amount of money received from the state and the manner the same has been disbursed during the year. In the months of September and October, 1898, since our last report we made a very creditable show of Wisconsin fruits at the Omaha Exposition, at an outlay of \$818.00, \$500.00 of which we used out of our annual appropriation, and the balance, \$300.00, the last legislature very generously appropriated to pay the amount we borrowed. Our show of seedling apples, which originated in Wisconsin, was not excelled by any state that exhibited. Our Society was highly pleased with the fact that we made the exhibit.

Our trial orchard at Wausau is still in a prosperous condition, though the cold was intense during the month of February last. Our apple crop last season was the largest ever known in the history of our state and many thousands of barrels were shipped to other states, for which a large amount of money was received.

Though the winter was severe the very large apple crop was so encouraging that many thousand trees were set in the state the past spring.

All of which is respectfully submitted.

A. J. PHILIPS,
Secretary.

West Salem, Wis., July, 1899.

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CONSTITUTION AND BY-LAWS.

CONSTITUTION.

ARTICLE I. This society shall be known as the Wisconsin State Horticultural Society.

ARTICLE II. Its object shall be the advancement of the art and science of horticulture throughout the state.

ARTICLE III. Its members shall consist of *annual* members, paying an annual fee of one dollar, which also shall entitle the wife of such member to the privileges of full membership; of secretaries of local horticultural societies reporting to the state society, who shall be considered members *ex-officio*; of *life* members paying a fee of five dollars at one time; of *honorary life* members, who shall be distinguished for merit in horticultural and kindred sciences, or who shall confer any particular benefit upon the society; and *honorary annual* members, who may, by vote, be invited to participate in the proceedings of the society.

ARTICLE IV. Its officers shall consist of a President, Vice-President, Recording Secretary, Corresponding Secretary, Treasurer, Superintendent and an Executive Board, consisting of the foregoing officers and additional members, one from each congressional district of the state, five of whom shall constitute a quorum at any of its meetings. In addition to the foregoing officers, the presidents of all local horticultural societies reporting to this society shall be deemed honorary members and *ex-officio* vice-presidents of this society. All officers shall be elected by ballot, and shall hold their office for one year thereafter, and until their successors are elected; provided, the additional executive members may be elected by the county or local horticultural societies of their respective districts.

ARTICLE V. The society shall hold its annual meeting for the election of officers, commencing on the first Monday in February. It may also hold a meeting in December of each year, at such place and time as may be decided upon by the society, or the executive committee for

the exhibition of fruit and for discussions, and such other meeting for discussions and exhibitions as the executive committee may direct, at such time and place as the executive board shall designate.

ARTICLE VI. This constitution, with the accompanying by-laws, may be amended at any regular meeting by a two-thirds vote of the members present.

BY-LAWS.

I. The president shall preside at meetings, and, with the advice of the recording secretary, call all meetings of the society, and have general supervision of the affairs of the society, and shall deliver an annual address upon some subject connected with horticulture.

II. The vice-president shall act in the absence or disability of the president, and perform the duties of the chief officer.

III. The secretary shall attend to all the correspondence, shall record the proceedings of the society, preserve all papers belonging to the same, and superintend the publication of its reports. He shall also present a detailed report of the affairs of the society at its annual meeting. He shall also endeavor to secure reports from the various committees, and from local societies of the condition and progress of horticulture in the various districts of the state and report the same to the society. It shall be the duty of the secretary to make an annual report to the governor of the state of the transactions of the society, according to the provisions of the statutes for state reports.

IV. The treasurer shall keep an account of all moneys belonging to the society and disburse the same on the written order of the president countersigned by the secretary, and shall make an annual report of the receipts and disbursements, and furnish the secretary with a copy of the same on or before the first day of the annual meeting. The treasurer elect shall, before entering upon the discharge of the duties of his office, give good and sufficient bonds for the faithful performance of his duties subject to the approval of the executive committee.

V. The executive board may, subject to the approval of the society, manage all its affairs and fill vacancies in the board of officers; three of their number, as designated by the president, shall constitute a finance committee.

VI. It shall be the duty of the finance committee to settle with the treasurer and to examine and report upon all the bills or claims against the society which may have been presented and referred to them.

VII. The standing committees of this society shall be as follows: 1st, Committee on finance, consisting of three members; 2d, Committee on nomenclature and new fruits, consisting of three members; 3rd, Committee on observation, as now provided. Said committee to be appointed annually by the executive committee of the society.

ACT OF RE-ORGANIZATION
AND LAWS RELATING TO THE
WISCONSIN STATE HORTICULTURAL SOCIETY.

**CHAPTER 151, LAWS OF 1879, AS AMENDED BY CHAPTER 14,
LAWS OF 1887.**

SECTION 1. The executive committee of the Wisconsin State Horticultural Society shall hereafter consist of the president, secretary and treasurer of said society, and of one member from each congressional district of the state, said members from the congressional districts to be chosen annually by the county and local horticultural societies in their respective districts.

SECTION 2. The present officers and executive committee of said society shall hold their respective offices until the Tuesday next succeeding the first Monday in February, 1880, and until their successors are appointed.

SECTION 3. It shall be the duty of said society to aid in the formation and maintenance of county and local horticultural societies, to promote the horticultural interests of the state by the holding of meetings for discussion; by the collection and dissemination of valuable information in regard to the cultivation of fruits, flowers and trees adapted to our soil and climate, and in every proper way to advance the fruit and tree growing interests of the state.

SECTION 4. The annual meeting of the society for the election of its officers, the transaction of general business, and the consideration of questions pertaining to horticulture, shall be held at such time and place as may be determined at the last preceding annual meeting. In case of the failure of such meeting to so determine, the executive board may call such meeting by giving at least thirty days' notice to each member of the society.

SECTION 5. All vacancies in the offices of said society may be filled by the executive committee; and should there be a failure to elect a

member of the executive committee in any district, the vacancy may be filled by a two-thirds vote of the members of the society present at any regular appointed meeting.

SECTION 6. It shall be the duty of the secretary of said society to make an annual report to the governor of the state of the transactions of the society, including an itemized account of all moneys expended during the year, in addition to such matters as are now specified in the law relating to the same.

CHAPTER 526, LAWS OF 1889.

SECTION 5. And further, there shall be printed annually upon the approval and order of the commissioners of public printing, ten thousand copies of the transactions of the Wisconsin State Agricultural Society, the same to embrace the reports of the county and other agricultural societies, and such matters pertaining to the agricultural industries of the state as shall be deemed important, provided the whole number of printed pages shall not exceed four hundred. Seven thousand copies of the transactions of the Wisconsin State Horticultural Society, the same to embrace such abstracts of reports of county and other horticultural societies, and such matters pertaining to the horticultural interests of the state as shall be deemed important, provided that the whole number of printed pages shall not exceed two hundred. Eight thousand copies of the transactions of the State Dairymen's Association, the same to embrace such other matters pertaining to the dairy interests of the state as shall be deemed essential, provided that the whole number of printed pages shall not exceed two hundred. Twelve thousand copies of the report of the Agricultural Experiment Station of the State University, provided that the whole number of printed pages shall not exceed two hundred and fifty. Two thousand copies of each of said reports to be bound separately in cloth, all others singly in paper.

SECTION 6. The reports provided for in the preceding section shall be distributed as follows, through the superintendent of public property: Fifteen copies to each member of the legislature, fifty copies to the State Horticultural Society, ten copies to each county agricultural society, and district industrial association, which embraces two or more counties and furnishes the State Agricultural Society a report of its proceedings, to each of the four societies named in the preceding section, fifty copies of each of the reports of the other three societies, twenty-five copies of each of the reports to the library of the state university; to the governor, lieutenant-governor, secretary of state, state treasurer, attorney general, state superintendent of public

instruction, railroad commissioner and insurance commissioner, twenty-five copies each; to the state superintendent of agricultural institutes, fifty copies; to the superintendent of public property, commissioner of labor statistics, adjutant-general, quartermaster general, state board of health, each ten copies; to each public library in the state, two copies; to each state normal school, two copies; to each of the state charitable and penal institutions, one copy; and the remaining copies to the respective societies for distribution by their secretaries.

SECTION 7. In no case shall the number of printed pages in any report provided for in the act exceed the maximum number specified, except upon written request of the officers submitting the same, and then only upon previous written approval of a majority of the commissioners of public printing, such application and approval to be filed with the secretary of state.

CHAPTER 417, LAWS OF 1889.

SECTION 1. The governor is hereby authorized to set apart by proclamation one day in each year to be observed as a tree planting or arbor day, requesting all public schools and colleges to observe the same by suitable exercises, having for their object the imparting of knowledge of horticulture, in the department known as arboriculture, and the adornment of school and public grounds.

SECTION 2. This act shall take effect and be in force from and after its passage and publication.

Approved April 16, 1889.

Resolved by the Senate, the Assembly concurring, That the governor be and he hereby is authorized to have full control of all office rooms in the capitol, and to assign to each office or department such room or rooms as in his judgment may be required for the transaction of the business of the respective department, and for the proper care and preservation of the records and property.

All laws interfering with this resolution are hereby repealed.

This resolution shall take effect and be in force from and after its passage and publication.

In accordance with the above the governor has set apart Room 207 for the use of the Horticultural Society.

CHAPTER 148, LAWS OF 1895.

An Act to appropriate a sum of money to the Wisconsin State Horticultural Society.

The people of the state of Wisconsin, represented in senate and assembly, do enact as follows:

SECTION 1. There is hereby appropriated the sum of fifteen hundred dollars out of the general fund annually, to the Wisconsin State Horticultural Society, and five hundred dollars to establish an additional experiment station.

SECTION 2. Chap. 117, of the laws of 1893, is hereby repealed.

SECTION 3. This act shall take effect and be in force from and after its passage and publication.

Approved April 8, 1895.

CHAPTER 339.

SECTION 3. There shall be printed seven thousand copies of transactions of Horticultural society, four thousand of which shall be bound in cloth, provided, the whole number of pages shall not exceed two hundred and fifty.

CHAPTER 239, LAWS OF 1897.

SECTION 1. Chapter 148, of the laws of 1895, is hereby amended so as to read as follows: There is hereby appropriated the sum of fifteen hundred dollars out of the general fund annually, to the Wisconsin State Horticultural Society; and two hundred and fifty dollars annually for the maintenance of experiment stations.

SECTION 2. This act shall take effect and be in force from and after its passage and publication.

Approved April 14, 1897.

MEMBERS OF THE SOCIETY.

LIFE.

Geo. J. Kellogg.....	Janesville, Wis.
F. W. Loudon.....	Janesville, Wis.
Marcus S. Kellogg.....	Janesville, Wis.
Mrs. Ida E. Tillson.....	West Salem, Wis.
George Raymer	Madison, Wis.
Prof. E. S. Goff.....	Madison, Wis.
A. D. Barnes	Waupaca, Wis.
Charles A. Dolton	Dolton, Ill.
W. L. Ames	Oregon, Wis.
Henry Floyd	Eureka, Wis.
J. M. Underwood	Lake City, Minn.
F. H. Chappell	Oregon, Wis.
N. E. France	Platteville, Wis.
S. S. Chandler, Jr.	Waupaca, Wis.
Fred A. Harden	Weyauwega, Wis.

HONORARY LIFE MEMBERS.

O. S. Willey, ex-Secretary.....	Madison, Wis.
F. W. Case, ex-Secretary.....	Chicago, Ill.
Prof. Wm. Trelease, ex-Secretary	St. Louis, Mo.
J. S. Stickney, ex-President.....	Wauwatosa, Wis.
A. G. Tuttle, ex-President,	Baraboo, Wis.
B. F. Adams	Madison, Wis.
F. K. Phoenix	Delavan, Wis.
Peter M. Gideon	Excelsior, Minn.
J. S. Harris	La Crescent, Minn.
E. H. S. Dartt.....	Owatonna, Minn.
C. G. Patten	Charles City, Ia.
M. E. Hinckley.....	Marcus, Ia.
Prof. L. H. Bailey	Ithaca, N. Y.

ANNUAL HONORARY MEMBERS.

Miss Lillian M. Kayser	632 Van Buren St., Milwaukee, Wis.
H. L. Thurston	Chicago, Ill.
Jonathan Periam	Chicago, Ill.
Mrs. J. M. Underwood	Lake City, Minn.
J. C. Guilford	Dubuque, Ia.

LIST OF ANNUAL MEMBERS, 1899.

Agen, J. H.	West Superior, Wis.
Bingham, D. E.	Sturgeon Bay, Wis.
Babcock, O. W.	Omro, Wis.
Buck, J. P.	Appleton, Wis.
Bernet, E. J.	1014 S. 4th St., La Crosse, Wis.
Bradt, H. H. G.	Eureka, Wis.
Carroll, R. C.	St. Anthony Park, Minn.
Cannon, A. A.	Marcellon, Wis.
Coe, R. J.	Fort Atkinson, Wis.
Converse, D. C.	Fort Atkinson, Wis.
Coolidge,	Box 244, Salmon Falls, N. H.
Cook, Fayette L.	Spear Fish, S. Dakota
Carpenter, Miss A.	Eureka, Wis.
Cook, Mrs. C.	Eureka, Wis.
Calhoun, Mrs. A.	Eureka, Wis.
Chappell, Mrs. Jennie	Eureka, Wis.
Demorest, E. L.	Waupaca, Wis.
Edwards, F. C.	Fort Atkinson, Wis.
Edwards, A. J.	Fort Atkinson, Wis.
Fridd, John	Koro, Wis.
Franklin, Mrs. J. M.	Eureka, Wis.
France, N. E.	Platteville, Wis.
Finkle, Mrs. G. L.	Appleton, Wis.
Gaynor, Hon. J. A.	Grand Rapids, Wis.
Green, R. C.	Albion, Wis.
Hoxie, B. S.	Evansville, Wis.
Hatch, A. L.	Sturgeon Bay, Wis.
Hirschinger, Hon. Chas.	Baraboo, Wis.
Houser, Theodore	Onalaska, Wis.
Howle, John	Waunakee, Wis.
Hoffman, J.	Monroe, Wis.
Hill, Geo. C.	Rosendale, Wis.
Hanchett, W. H.	Sparta, Wis.
Houser, John	Onalaska, Wis.

Innis, W. I.	Ripon, Wis.
Jeffrey, George	Milwaukee, Wis.
Johnson, Franklin	Baraboo, Wis.
Jewett, Z. K.	Sparta, Wis.
Jensen, F. A.	Spring Green, Wis.
Johnson, A. M.	North Greenfield, Wis.
Johnson, F. C.	Kishwaukee, Ill.
Kellogg, L. G.	Ripon, Wis.
Kluck, N. A.	McConnell, Ill.
Kelly Bros.	Mineral Point, Wis.
Laub, Wm.	Madison, Wis.
Laiten, L. F.	Omro, Wis.
Loope, T. E.	Eureka, Wis.
Menn, J. J.	Norwalk, Wis.
Merrill, S. R.	Appleton, Wis.
Meixner, John	North Bristol, Wis.
McGowan, J. S.	Janesville, Wis.
Marshall, S. H.	Madison, Wis.
McGregor, E. L.	Appleton, Wis.
Nixon, E. P.	Janesville, Wis.
Nicholai, H. C.	Big Bend, Wis.
Ovendon, F.	Madison, Wis.
Phillips, A. J.	West Salem, Wis.
Parsons, A. A.	Eureka, Wis.
Peffer, Kate F.	Pewaukee, Wis.
Palmer, Levi	Madison, Wis.
Pingrey, S. O.	Omro, Wis.
Pingra, J. H.	Juda, Wis.
Read, L. H.	Grand Rapids, Wis.
Richardson, E. A.	Sparta, Wis.
Riley, A. S.	Pardeeville, Wis.
Single, Edd	Wausau, Wis.
Stark, Frank	Randolph, Wis.
Spry, John	Fort Atkinson, Wis.
Simonson, Andrew	Racine, Wis.
Simmons, Chas.	Stockton, Ill.

MEMBERS.

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Smith, G. B.	Green Bay, Wis.
Smith, I. C.	Green Bay, Wis.
Scott, Kennedy	Rio, Wis.
Snow, D. B.	Madison, Wis.
Seymour, A. N.	Mazomanie, Wis.
Smith, B. H.	Tiffany, Wis.
Steaps, H. J.	Eureka, Wis.
Toole, Wm.	Baraboo, Wis.
Tichenor, W. M.	Waupun, Wis.
Tarrant, Henry	Janesville, Wis.
Trevelen, Jos. D.	Omro, Wis.
Tanner, Thos.	Omro, Wis.
True, John M.	Baraboo, Wis.
Timori, Mrs. A.	Eureka, Wis.
Williams, Daniel	Summit, Wis.
Wolcot, Mrs. Frank	Appleton, Wis.
Williams, Mrs. Nancy	Eureka, Wis.
Walcot, A. S. H.	Eureka, Wis.

BUSINESS CARDS OF MEMBERS, 1899.

Barnes, A. D., Waupaca, Arctic nursery and fruit farm.

Cannon, A. A., & Son, Marcellon, nursery and small fruits.

Chappell, F. H., Oregon, grower and dealer in nursery stock.

Coe & Converse, Fort Atkinson, nursery stock and small fruits.

Edwards, F. C., Fort Atkinson, small fruits and nursery stock.

Edwards, A. J., Fort Atkinson, nursery and small fruits.

France, N. E., Platteville, State Bee Inspector.

Hardin, F. A., Weyauwega, small fruit grower and nursery.

Hatch, A. L., Sturgeon Bay, nursery and small fruits.

Hill, Geo. C., Rosendale, small fruits and Guernsey cattle.

Hirschinger, Chas., Baraboo, orchardist and nurseryman.

Houser, John F., Onalaska, small fruits and vegetables.

Hanchett, Will., Sparta, small fruit grower.

Johnson, Franklin, Baraboo, small fruits and orchard.

Jewett, Z. K., Sparta, nursery.

Kellogg, L. G., Ripon, small fruit a specialty.

Kellogg, Geo. J., & Sons, Janesville, Belle Cottage Fruit Farm.

Loope, T. E., Eureka, orchard and small fruits.

Loudon, F. W., Janesville, originator of Jessie Strawberry and Loudon Raspberry.

McKerrow, Geo., Sussex, importer and breeder of mutton sheep.

Phillips, A. J., West Salem, Mount Zion Nursery & Fruit Farm.

Phoenix, F. K., & Son, Delavan, nursery and small fruits.

Reed, L. H., Grand Rapids, seed potatoes a specialty.

Richardson, E. A., Sparta, small fruits.

Seymour, A. N., Mazomanie, small fruits.

Smith, I. C., Green Bay, vegetables and small fruits.

Spry, John, Fort Atkinson, grower of small fruits and plants.

Smith, G. C., Green Bay, gardener and seed potatoes.

Tuttle, A. G., Baraboo, small fruits.

Toole, Wm., Baraboo, pansy specialist.

Underwood, J. M., Lake City, Minn., Jewell nursery.

Dartt, E. H. S., Owatonna, Minn., State Tree Station.

Harris, J. S., La Crescent, Minn., seedling specialist.,

Gideon, Peter, Excelsior, Minn., originator of Wealthy apple.

Patten, G. C., Charles City, Ia., Experimental orchard.

Miss Kate Pepper, Pewaukee Creamery.

Scott, Kennedy, Rio, seed potatoes.

OFFICERS FOR 1899.

OFFICERS FOR 1899.

President, Franklin JohnsonBaraboo
Vice-President, O. W. BabcockOmro
Secretary, A. J. PhillipsWest Salem
Treasurer, R. J. CoeFort Atkinson
Corresponding Secretary, Vie H. Campbell.....Evansville

EXECUTIVE COMMITTEE.

The President, Secretary, and Treasurer, *ex-officio*. Additional members, Prof. E. S. Goff, Madison; Geo. J. Kellogg, Janesville; J. S. Stickney, Wauwatosa; S. R. Merrill, Appleton; O. W. Babcock, Omro; Will Hanchett, Sparta; L. H. Read, Grand Rapids; Ed. Single, Wausau; J. H. Agen, West Superior; A. M. Johnson, North Greenfield.

COMMITTEE ON NOMENCLATURE.

A. L. Hatch, Sturgeon Bay; A. A. Parsons, Eureka; A. J. Edwards, Fort Atkinson.

COMMITTEE ON LEGISLATION.

R. J. Coe, Fort Atkinson; Prof. Goff, Madison; Dr. T. E. Loope, Eureka.

COMMITTEE ON FINANCE.

L. G. Kellogg, F. C. Edwards, W. J. Moyle.

COMMITTEE ON REVISION OF FRUIT LIST.

Geo. J. Kellogg, Will Hanchett, John L. Herbst.

COMMITTEE ON RESOLUTIONS.

Mrs. Vie H. Campbell, Evansville; D. C. Converse, Fort Atkinson; L. G. Kellogg, Ripon.

Superintendent of Exhibits—Wm. Toole.

Field Trials—A. L. Hatch.

Badges—Mrs. Vie H. Campbell.

COMMITTEE ON TRIAL ORCHARD.

Ex-officio, President and Secretary; Prof. E. S. Goff, Madison; Ed. Single, Wausau; Henry Tarrant, Janesville.

COMMITTEE OF OBSERVATION.

B. M. Vaughn, Grand Rapids; O. W. Babcock, Omro; J. S. Case, Eau Claire; F. A. Hardin, Weyauwega; E. A. Richardson, Sparta; A. J. Edwards, Fort Atkinson; John Menn, Norwalk; Daniel Williams, Summit; Franklin Johnson, Baraboo; D. E. Bingham, Sturgeon Bay; C. A. Abbott, Appleton; John L. Houser, Onalaska; Ed. Single, Wausau; P. H. Carnes, Ellsworth.

FRUIT LIST.

Pears—Flemish Beauty, Early Bergamot, Keifer.

PLUMS.

American varieties—De Soto, Cheney, Wolf, Rockford, Miner (if top grafted), Hawkeye, Fountain Garden, Wyant.

European varieties for lake region—Abundance, Green Gage, Lombard, Field, Hudson River, Purple Egg, Moore's Arctic.

CHERRIES.

Hardest—Early Richmond.

Kentish—English Morello.

For trial—Wragg, Bessarabian.

STRAWBERRIES.

For shipment—*Warfield, *Crescent, Enhance, Wilson, Parker, Earle, Van Deman, Sandoval, Splendid.

For near markets—*Bubach, *Haverland, Greenville, *Crescent, *Warfield, Wood, Enhance, Jessie (on certain soils).

For home use—Jessie, *Bubach, *Warfield, *Crescent, Parker, Earle.

For furnishing pollen to imperfect flowering kinds—Parker, Earle, Jessie, Wilson, Wood, Enhance, Van Deman, Saunders, Capt. Jack, Rio, Wolverton.

Late—Eureka, Gandy, Parker, Earle, Brandywine, Enhance.

Early—Wood, *Crescent, Van Deman, Warfield, Rio.

For trial—Sparta.

NOTE.—The best sites for apples, cherries, plums, pears and grapes in Wisconsin, are elevated limestone soils, not too rich, and free from untimely spring frosts, or places under the influence of bodies of water. Plant those kind that are succeeding best on soils and sites similar to the one to be used; plant but few kinds with different kinds near each other, rather than in large blocks, and thus secure better fertilization of bloom; to prevent injury by insects and parasitic fungi spray and give good cultivation before July 1st each season.

Those marked with an asterisk have imperfect flowers and should be planted near those having perfect flowers.

GRAPES.

For market vineyards—Moore's Early, Worden, Concord, Brighton, Delaware.

For home use—Moore's Early, Worden, Brighton, Delaware, Massachusetts, Moore's Diamond, Lindley.

Late keepers—Wilder, Lindley, Vergennes, Merrimac, Agawam.

Early—Moore's Early, Early Victor.

White Grapes—Pocklington, Niagara, Green Mountain.

BLACK RASPBERRIES.

Nemaha, Gregg, Ohio, Older, Kansas.

Early—Palmer.

RED RASPBERRIES.

Marlboro, Cuthbert, Shaeffer.

For trial—Columbia, Loudon.

BLACKBERRIES.

Snyder, Briton, Stone's Hardy, Badger.

DEWBERRIES.

For trial—Lucretia, Bartel.

CURRENTS.

White—White Grape, White Dutch.

Red—Prince Albert, Victoria, Holland, Red Dutch.

Black*—Lee's Black Naples.

GOOSEBERRIES.

For general cultivation—Houghton, Downing.

For trial—Red Jacket, Triumph, Columbus, Queen.

*Winter protection recommended.

Grow best in shady places; used for cooking only.

APPLES.

NAME.	SIZE	FORM	SHAD- ED SIDE	SUNNY SIDE.	CALYX	STEM	CAVITY.
Antonovka.	Large	Med con ribbed	Greenish yellow	Yellowish brown	Partly open	Short	Yellow russet
Avista.	Medium to large	Roundish conical	Green	Yellow	Partly open	Medium, stout	Broad, shallow
Arabka.	Large	Flat, conical	Dark green	Dark red	Open	Long, thin	Deep, russety
Charlamoff.	Large	Flat, roundish	Greenish	Yellow, dark brown	Closed	Long and thin	Deep and russety
Eureka.	Medium to large	Roundish, flat	Greenish yellow	Dark red	Open	Short, stout	Broad, shallow
Fall Orange.	Medium to large	Roundish	Pale yellow	Brownish, with dots	Large and partly closed	Short	Deep and narrow
Fall Spitzen- berg.	Medium to large	Round and conical	Greenish yellow	Crimson, with dots	Closed	Medium in length	Wide and very deep
Fameuse.	Medium	Round, flattened	Pale red	Deep red	Small	Short and small	Narrow, funnel like
Golden Russet.	Medium	Roundish, oblate	Golden russet	Yellowish russet	Nearly closed	Short and small	Deep
Hibernal.	Large	Flat and round	Dull red	Striped red	Large, closed	Short, stout	Broad, deep
Longfield.	Medium	Flat, conical	Light green	Reddish yellow	Half open	Long, thin	Deep, smooth
Lusk Queen	Medium	Model	Bright red	Shaded white	Closed	Short, stout	Deep, regular
McMahan.	Large	Round, conical	Yellowish white	Reddish blush	Large, open	Long, stout	Broad, deep
Newell.	Large	Round, flat and conical	Lemon yellow	Orange blush	Closed	Stem short	Deep
N W. Green- ing.	Large	Round, conical	Green	Yellowish blush	Mostly closed	Medium	Large, russeted
Oldenburg.	Large	Round, oblate	Strained red	Yellow and red	Large, closed	Short, stout	Broad
Patten's Greening	Medium to large	Round, oblate	Waxen yellow	Faint blush	Large, closed	Short	Broad, deep
Pewaukee.	Medium to large	Round, conical	Greenish yellow	Reddish streaked	Closed	Short	Shallow
Plumb's Older.	Medium	Round, conical	Reddish green	Green streaked	Closed	Short	Narrow
Raspberry.	Small	Flat, conical	Greenish yellow	Carmine	Closed	Long, thin	Deep yellow

BASIN.	FLESH	USE AND VALUE—SCALE 1 TO 10.			SEA ON.	TREE.	ORIGIN.
		Dessert.	Cooking.	Market.			
Deep ribbed	Greenish, white, firm	5	5	8	Early winter	Medium hardy	Russia
Broad, shallow	Very white	5	10	5	Winter	Hardy	Wisconsin
Ribbed, irregular	White and firm	5	7	5	Early winter	Medium hardy	Russia
Fat and irregular	Greenish and tender	4	6	5	Fall	Medium hardy	Russia
Broad, deep	Yellowish white	4	5	5	Winter	Hardy with age	Wisconsin
Deep and narrow	White, tender	6	8	5	Late fall	Hardy	Massachusetts
Narrow and abrupt	White and tender	7	7	6	Late fall	Medium hardy	Vermont
Narrow, small	Very white	10	4	8	Late fall	Hardy	France
Deep, round, open	Yellowish white	7	5	8	Winter	Hardy	Massachusetts
Broad and shallow	White	4	6	4	Late fall	Hardy	Russia
Ribbed, wavy	White, fine grained, firm	6	6	5	Winter	Medium hardy	Russia
Shallow	White, firm	6	4	6	Fall	Hardy	Russia
Small, abrupt	White, fine grain	6	10	10	Late fall	Very hardy	Wisconsin
Rather deep	White, tender	8	6	5	Winter	Hardy	Wisconsin
Small, irregular	White, tender	6	8	6	Winter	Hardy	Wisconsin
Broad, regular	Juicy, white	6	10	10	Early fall	Very hardy	Russia
Large, closed	White, firm	6	7	6	Early winter	Hardy	Wisconsin
Shallow, irregular	Yellowish, white	6	7	8	Winter	Medium hardy	Wisconsin
Broad, deep	White, firm	5	5	5	Late fall	Medium hardy	Wisconsin
Narrow ribbed	Greenish, white	8	4	7	Fall	Medium	Russia

APPLES—Continued.

NAME.	SIZE.	FORM.	SHADED SIDE.	SUNNY SIDE.	CALYX.	STEM.	CAVITY.
Scott's Winter	Small	Round, conical	Dark red, striped	Yellowish red	Closed	Short	Small, deep
Tetfski.	Medium	Ob'ate, conical, round	Reddish yellow	Whitish bloom	Closed	Short, stout	Narrow, deep
Walbridge.	Small	Flat, round	Whitish yellow	Pale red- dish green	Small, closed	Short	Medium
Wealthy.	Medium to large	Round, oblate	Yellowish crimson	Dark red, striped	Partly closed	Short, medium, slender	Green, russet
Willow Twig.	Medium	Round, conical	Light yellow	Dull reddish	Partly closed	Short, slender	Narrow, deep
Wisconsin Russet.	Medium	Round, oblate	Yellow russet	Dark russet	Half open	Short	Broad, regular
Windsor Chief	Medium	Round, oblate	Dull yellow	Dull red	Partly closed	Short	Regular
Wolf River.	Very large	Roundish, oblate	Reddish white	Pale green, yellow	Open	Very short	Large, greenish
ORABS.							
Transcendent	Medium	Roundish, oblong	Yellow crimson	Red cheek	Closed	Long, slender	Open, deep
Hyslop	Large	Roundish, oblate	Light red	Dark red	Closed	Long, slender	Open, deep
Sweet Russet.	Large	Round, conical	Light yellow	Dark yellow.	Small, closed	Long, slender	Broad, deep
Whitney No 20.	Medium to large	Round, conical	Golden yellow	Reddish crimson	Partly closed	Medium, slender	Broad, deep
Gibb.	Large	Round, oblate	Light yellow	Golden yellow	A little open	Short	Deep
Martha.	Large	Round, flat	Light red	Dark reddish	Closed	Medium	Shallow
Virginia.	Medium	Round, oblate	Light yellow	Reddish yellow	Closed	Long	Shallow

BASIN.	FLESH.	USE AND VALUE—SCALE 1 TO 10.			SEASON.	TREE.	ORIGIN
		Peculiar.	Cooking.	Market.			
Front, deep	White, firm	6	5	5	Winter	Hardy	Vermont
Small, corrugated	White juicy	5	7	6	Summer	Very hardy	Russia
Small, plaited	White, fine, tender, juicy	1	7	5	Winter	Hardy	Illinois
Deep, uneven	Reddish white, fine grained	10	10	10	Early winter	Hardy	Minnesota
Front, shallow	Yellowish green, hard	5	5	7	Winter	Medium hardy	Unknown
Irregular	Yellowish white, firm	4	5	5	Winter	Medium	Wisconsin
Regular, broad	White, half tender	5	6	8	Winter	Medium	Wisconsin
Large, very deep	White, coarse	6	6	8	Late fall	Hardy	Wisconsin
Shallow	Creamy yellow	6	5	5	Summer	Hardy	
Broad, shallow	Yellowish white	4	5	8	Early winter	Hardy	
None	Mellow, tender	8	5	5	Autumn	Hardy	Wisconsin
Deep	Tender, white, juicy	10	7	7	Autumn	Hardy	Illinois
Broad, shallow	Fich, yellow	5	5	5	Autumn	Hardy	Peffer, Wis
Broad, shallow	White, firm	5	7	6	Late autumn	Hardy	Minnesota
Shallow	White, juicy	5	6	5	Late autumn	Very hardy, best for top work 'g	Iowa

TREES AND SHRUBS RECOMMENDED.

EVERGREENS.

For screens and windbreaks—Norway Spruce, Balsam Fir, White Pine.

For hedges and screens for shearing—Norway Spruce, American Arbor Vitae, Red Cedar.

For lawns and cemeteries—Norway Spruce for backgrounds. For groups—American Arbor Vitae, Hovey's Golden, Arbor Vitae Pyramidalis, Arbor Vitae Siberian, Arbor Vitae, Juniper Excelsa, with Protection.

For small lawn decoration—Juniper Suedica, Arbor Vitae, Hovey's Golden Arbor Vitae, Arbor Vitae Pyramidalis.

DECIDUOUS TREES.

For cemeteries—Cut-leaved Birch, Wisconsin Weeping Willow, Weeping Poplar.

For lawns—All named above, and, in addition, Laurel-leaved Willow, Mountain Ash Oak-leaved, Mountain Ash American, Mountain Ash European, Maple Cut-leaved, Maple Norway, Kentucky Coffee Tree, Catalpa, Spiciosa, Elm American, Elm Scotch, Elm Weeping, European White Birch.

SHRUBS FOR CEMETERIES.

Hydrangea, Paniculata, Cornus Philadelphus, Tree Lilac, Spirea, Japonica, Spirea Van Houtii, Wahoo (American Strawberry Tree), Exchordia Grandiflora.

For lawns—All named above and, in addition, Purple Barberry, Purple Fringe, Upright Honeysuckle, Wigelia Rosea.

For screens and hedges—Upright Honeysuckle, Barberry Red Fruiting.

ROSES.

Twelve best varieties Hybrid Perpetual—Paul Neyron, Mrs. J. H. Laing, Gen. Jacqueminot, Dinsmore, Marshall P. Wilder, Coquette des

Blanches, Earl of Dufferin, Jules de Margottin, Vick's Caprice, Magna Charta, Prince Camille de Rohan, General Washington.

Moss Roses, four best varieties—Perpetual White, Salet, Paul Fontaine, Henry Martin.

Climbers, five best varieties—Prairie Queen, Russel's Cottage, Seven Sisters, Gem of the Prairies, Victor Verdier.

Hybrid China—Madam Plantier, Madam Hardy.

Brier Roses—Persian Harrison.

REPORT OF THE TRANSACTIONS

OF THE ANNUAL MEETING OF THE

Wisconsin State Horticultural Society,

Held in Madison, February 7, 8, 9 and 10, 1899.

Tuesday A. M., Feb. 7th, 1899.

President called meeting to order.

President—The first topic upon our program, "Appointment of Committees." We will dispense with the committee upon Program and follow the program as near as possible. Committee on Awards I will announce at the afternoon session.

President—Next topic upon our program will be five ten-minute reports of the Omaha Exhibition by those in charge, to-wit: A. L. Hatch, Wm. Toole, A. J. Philips, L. G. Kellogg and R. J. Coe.

President—We will call for Mr. Hatch to give his report.

REPORT OF OMAHA EXHIBITION.

By A. L. Hatch.

On the evening of the 25th of last August I received notice at my home in Sturgeon Bay that I was appointed by the Executive committee of the Horticultural society to go to Omaha and install a fruit exhibit from this state. I was also informed that I was expected to collect this fruit throughout the state as I

thought best, and as a starter I was to go to Madison so I could accompany Prof. Goff on the evening of the 26th to Richland county and secure what we could of fruit at Ithaca.

While I felt duly grateful for the confidence the committee felt in my ability to do this work acceptably, I was not sure but the board of strategy had counted too much upon my generalship in sending me five hundred miles from my base of supplies. However, on the next evening, with my daughter Bernice to assist me, we started and were very much disappointed in not having Prof. Goff's company to Richland county.

At Ithaca I started the work of collecting and packing, securing six barrels in all, of about 50 varieties, which gave us a splendid send-off from the first.

On arrival in Omaha September 1st, we at once began the preparation for our exhibit. By the time we had tables ready our fruit came. We ultimately had tables and shelving aggregating 220 feet surface, upon which we soon had one hundred varieties of apples besides several varieties of plums, pears and peaches.

We were fortunate in borrowing 140 plates from the Nebraska folks, from whom we received many courtesies. By purchase we obtained a lot more plates to fill our tables and as we soon had a generous supply of fruit we filled our tables as full as possible.

We also added about fifty glass stands that we could place among the plates of apples, which as they stood above them added very much to the room and were utilized for grapes, plums, peaches and the smaller apples.

The following states had fruit shows also in the Horticultural building: California, Oregon, Idaho, Montana, Missouri, Kansas, Colorado, Iowa and Illinois. The apple crop seemed to be very short west of the Mississippi river and as our state had a full crop we were able to secure fine, perfect fruit, that made our exhibit take the lead from the time it was installed, which it easily maintained as long as I staid with it, until September 26th, at which time Mr. Wm. Toole, of Baraboo, took charge.

To fill our tables it required about ten barrels of fruit and at the time we left we had the tables as full as possible and about eight barrels in store to use later on.

As the only method of securing the necessary fruit was by correspondence I had a few hundred circular letters printed, and

upon appealing to the members of our society in Wisconsin we were able to secure all the fruit we could use. In order to bring my report within the limit prescribed by the secretary I would say that my financial report was sent to President Kellogg. (Exhibit No. 1 herewith submitted, marked Credentials, consists of instructions, etc. No. 2, letters showing what was sent by different persons to the Exposition while I was there. Two envelopes marked A and B. No. 3, items that may be useful to editor of magazine. No. 4, letters worth preserving commenting on the Exhibition, etc.)

At Omaha we received courtesies from all officials and exhibitors with whom we had dealings. Our thanks are due to those who sent the fruit from Wisconsin, especially to Mr. Toole and the Omro society, and to the officers of this society for their cordial support.

Mr. William Fox of Baraboo, by way of Prof. Goff, contributed 35 baskets of grapes, Mr. Franklin Johnson and George J. Kellogg also contributed, Prof. Goff sent one dozen varieties of plums of three distinct classes. Fred Hardin from Waupaca county sent seedlings. I wrote to many in Waupaca county despaired of getting anything, but finally got a good exhibit. Mr. Moyle sent peaches and pears. Also received fruit from E. E. Freeborn of Ithaca, D. E. Bingham of Sturgeon Bay and Mr. A. J. Philips sent two or three shipments of beautiful fruit. B. S. Hoxie of Evansville, O. W. Babcock by the co-operation and assistance of the local society sent two sugar barrels of fruit. President Kellogg made an exhibit. We sent the Omro society \$10.00 to pay them for the work, but they returned it. Mr. George B. Smith of Green Bay collected some there that you would not dream of growing in that country. Dr. Barney made a collection from the Viroqua County Fair, Kelley Brothers from Mineral Point. This is a list of all the shippers. (Refers to list.)

Now in regard to this whole matter, of course we were going there to compete with states that have the largest commercial orchards in the world, and we went with much diffidence, but after I had my exhibit in place it looked pretty good. We have a climate that will mature fruit much better than Colorado, where it is elevated. We can grow earlier apples than they can.

I looked over the other exhibits. Way down the hall past the exhibits of several states, I found the Kansas exhibit presided over by that generous gentleman, Mr. Wellhouse. Very naturally I was desirous of learning something of their ways, means and methods so I talked with him, and invited him to look over our exhibit. He stood with the most singular look of surprise on his face. We had 100 varieties of apples. He said: "I never saw a finer exhibit in my life." I said: "Mr. Wellhouse, I take this as a compliment." He said: "I did not dream you could do this in Wisconsin." Supt. Taylor, who talked to us on sugar beets and Russian apples, superintendent of the Horticultural department of the Omaha exhibit, commended us just as highly as that. With the triumph that we had there, I think we can safely say that Wisconsin apple growing has gotten out of its baby-hood, and we need not try to convince folks what we can do, but can show them what we have done.

By some inadvertence a great injustice was done in the matter of awards as no mention was made of the excellent exhibit sent in by Mr. A. G. Tuttle of Baraboo. This arose I am sure from the fact that the lists of those sent in during September were not used by the superintendents who followed me and that Prof. Taylor's first plan was not carried out in the awards made finally late in October. Since Mr. Tuttle sent about 40 varieties, there is no question whatever of their having received an award if they had been properly listed.

Since two-thirds of all the apples grown in Wisconsin are Russian apples or their seedlings, we can not wisely ignore this class of hardy varieties that will doubtless be of much more importance than ever, since this present winter is so severe.

President—I wish to call special attention to the map that Mr. Hatch got up. I feel, knowing what Supt. Hatch had to contend with, that his work must be highly commended. We laid down no plans, in any way, when we had our Executive committee meeting, to help Mr. Hatch, and I feel it my duty to say in acknowledgment, that Mr. Hatch's work is to be commended.

List of persons shipping fruit to A. L. Hatch for Omaha Exposition:

Wm. Toole, Baraboo; Wm. Fox, Baraboo; Franklin John-

son, Baraboo; Geo. J. Kellogg, Janesville; Prof. E. S. Goff, Madison; Fred A. Hardin, Weyauwega; W. J. Moyle, Yorkville; E. E. Freeborn, Ithaca; D. E. Bingham, Sturgeon Bay; A. J. Philips, West Salem; Asa Thorp, Fish Creek; B. S. Hoxie, Evansville; O. W. Babcock, Omro; Kelley Bros., Mineral Point; L. G. Kellogg, Ripon; F. L. Barney, Viroqua; Geo. B. Smith, Green Bay; A. D. Barnes, Waupaca; A. G. Tuttle, Baraboo; Chas. Hirschinger, Baraboo; Henry Tarrant, Janesville.

President—We will now listen to Mr. Philips.

Mr. Philips—I see that Mr. Hatch has covered the ground very fully.

People that left Wisconsin when they were children some 10, 15, 20, 25, 30 years ago, and have grown to manhood and womanhood now, went with the impression that Wisconsin was not a fruit growing state, visited that exhibit, and when they saw the fruit we had there, they would linger around, and come back to take another look at it. Why, even Mr. Toole seemed much pleased with the compliments he received, and when he left the building, he went reluctantly, looking back at that exhibit of fruit. Now, after I came to Omaha, I had a better chance than Mr. Hatch did to make a fine exhibit, as we who came later, had fruit better matured. Mr. Hatch had to take largely what was sent him, whereas, I selected largely my own. I sent Mr. Hatch some apples, quite a few, but I did not send my best, as they matured later. Gentlemen, there is no state in the union that can produce such seedlings as Wisconsin.

Prof. Taylor said two years ago, when asked about the value of Wisconsin seedlings, and he said that they were worth not more than 15 cents, and I wanted to show him that they were. I made a display of our best Wisconsin seedlings. I had four plates of N. W. Greenings. One plate was made up from apples of three counties. I did the same with McMahan. I had a plate of McMahan on the opposite corner. The new seedling found in Monroe county (refers to specimen). Many asked me for cions. Other exhibitors seemed jealous of us. They said, "We hear that this is the first crop you have raised in 40 years," they used the word first instead of largest. Uncle Wellhouse, who has 1,640 acres of orchard, said, if you want to see a nice show, go and see the Wisconsin fellows' show. After I added those

seedlings to our exhibit, he said: "You had a nice show, but you have increased the looks of it very much as the fruit is riper. Looking at the McMahan apples, the ladies would say, "How lovely."

Voice—Did they mean you or the apples?

Laughter.

Mr. Philips—Apples, of course; they are not fools down there. They had one apple there with a card, "Weight, 24 1-2 ounces," but it must have grown over night, for the next day the card read 25 oz. My apples shrunk a little but these apparently grew.

The reason our exhibit attracted so much attention was our space was narrow, and we placed our exhibit so that people could take it in at a glance. Professor Taylor came around and brought the governor of Colorado, who complimented us. Prof. Henry looked at our exhibit and then went the length of the hall, he came back and said to me: "Say, Philips, Wisconsin don't have to bow to any of them." It was not a competitive exhibit. We did not compete with the other states, and did not compete with each other. It showed that we can grow seedling apples, and can grow nice ones.

President Kellogg—My report will be in the nature of an apology. So much has been said pertaining to this exhibit that little remains to be said, while I had charge of it. I will acknowledge receipt of a few apples that came in while I had charge, Mr. Barnes sent some fine specimens, also H. Tarrant of Janesville. While in charge, I unpacked a portion of the apples received from the Omro society, also apples in cold storage from Geo. J. Kellogg, of Janesville. We also received from Sturgeon Bay, about the 15th of October, a package of Warfield strawberries, they had been on the road several days and were in poor condition. They attracted considerable attention as a novelty. Mr. Coe had charge of the exhibit the closing two weeks, and I will call upon Mr. Coe to close the report.

Mr. Coe—Now, if I was to tell you what I saw, it will be a repetition of what you have already heard. Mr. Philips spoke to you about the number of people (who formerly lived in Wisconsin) who visited the exhibit. One gentleman came along and looked at our exhibit, and, taking off his hat, he made a low bow, saying the only thing he regretted was that he ever left Wis-

consin. A lady and gentleman came along, and the lady said, "Have you any apples from Walworth county?" I said, "No, I think not." "Well, I would give \$10 for an apple from Walworth county." You all know that joy is very near sorrow, and tears actually rolled down one man's cheeks, and he said, "I am glad I once lived in Wisconsin." I have only to report the winding up of the exhibit. I arrived on Friday at night, Saturday I spent with Mr. Kellogg, and I found that there had been no entries made for awards. I went to see Prof. Taylor, and asked him about our entries. He said, "You have until Monday noon, then they must all be made." Monday morning I went to Prof. Taylor in order to ask him for blanks, etc., and he brought blanks several yards long. He said you will have to fill out two of these blanks for each entry. I made 28 entries, and so far as I know of only one man, who made an exhibit there, and that was brother Barnes, whose entry was not made. I only had about 4 hours in which to do this work. Monday evening we went over the whole awards, and most of you know the result. Now about the disposition of our tables and fixtures. I was told by another exhibitor, to just wait until the show was over and you can sell out. There will be hundreds of people here who will want to buy the fruit. But the more I began to think this matter over, the more I thought it would be best to sell when people wanted to buy. One man wanted to buy our whole outfit, fixtures and fruit. So I sold when I had the opportunity. I had been told to wait until Tuesday. Well, Tuesday morning came, but the people didn't, just a few exhibitors were there. Colorado threw away half of her apples, and got about \$5 for the rest. Now, Mr. President, that is about all I have to say, and I do feel that Wisconsin did the right thing in making this exhibit. We made a good exhibit with a small amount of money, and this has done more to help Wisconsin horticulture than any one thing that we have ever done.

President—We will now listen to the observations by an outsider, Mr. G. J. Kellogg.

Mr. President, Ladies and Gentlemen: My first view of Wisconsin fruits at Omaha was early in October before the grapes had disappeared, after the plum, pear, peach and strawberry exhibits, and I was anxious to know who had contributed to these

shows and inquired after the record to see from whom the several collections had been received and by whom grown. But by the most diligent inquiry I could not find the least record; a good deal like an Indian record, traditional; handed down from one superintendent to another with a good deal of forgetfulness. Only by the names of varieties could I form any idea from what part of the state or by whom grown were the fruits on exhibition.

The show was magnificent for the last month, and for the amount of table room nothing exceeded it, except a few exhibits from the mountains where irrigation adds to size and detracts from flavor.

The states of Iowa, Illinois, Nebraska and Missouri improved to the last while Wisconsin only held her own. Iowa showed one Wolf River claiming to be 3-4 of an ounce heavier than any from Wisconsin, but Wisconsin had one plate of 5 Wolf River that weighed 7 pounds and two ounces; this I think exceeded anything on the grounds. Many states showed with exultant pride Wolf River and N. W. Greening. Wisconsin has a right to be proud of her seedlings. We certainly showed the most original varieties of any state in the union, and singular to record these are all chance seedlings, except, perhaps some of S. I. Freeborn's varieties. Very few varieties have been brought out that show even from what seed they were grown, much less artificial pol-
lenization with a view of improvement.

In the matter of awards I am told we were to have had one gold and thirteen silver medals, but nothing but leather or bronze medals have been received, a very cheap way of paying for a thousand dollar exhibit. In the matter of awards there is much mystery; the committee on Awards, I am told did not see our early exhibition, and that it was not even entered for competition until it had all been removed from the tables. It seems all that was necessary to get a bronze or leather medal was to send one plate of apples to the exposition.

I have been informed that there were no entries made of Wisconsin fruits for competition until three weeks before the exposition closed. I hope the commissions in charge of the fruit may be able to explain some of these blunders but to an outsider

who has tried to get at the facts, and spent five days on the grounds, it appears like a very great lack of business ability.

Mr. Philips—Reads letter from Professor Taylor relative to the medals, explaining that medals were sent as were promised and none leather.

Mr. Hatch—One of the first things I did after I got the exhibit installed was to see Prof. Taylor. I then made the entries myself. I did my duty to the best. (This in answer to Mr. Kellogg's paper.) I have the letters and correspondence I received, all of it. The boxes came variously packed, some were labeled wrong, and here it was a hundred questions in a minute required of us, and here are the actual letters that were on file in the hands of Superintendent Taylor, which I received.

Mr. Kellogg—If I had had all these facts before I wrote my paper, all these conflicts would not have come in.

(Mr. Hatch here reads letter received from Janesville.)

I tried to do my duty as faithfully as I could. I put in 5 weeks of hard work there, and it is not gentlemanly of those who did not put in a cent, to criticise us.

Mr. Hoxie—I wish to say a word. Although I have been prepared for this report by the newspapers, I am glad to hear this report this morning. I would like to say that I appreciate the disadvantages that these men had to labor under. When I was at the World's Fair most of the fruit that came in had to be unpacked, many questions answered, and at night the report made. You have my hearty sympathy and congratulations, and I am glad we made the exhibit.

Mr. Phillips reads awards at Omaha.

Mr. Barnes—I would like to second the voice of Brother Hoxie in commending this exhibit. I do not blame anybody in not mentioning my exhibit, and we are glad and proud that we are in Wisconsin, of Wisconsin, and that Wisconsin did make the exhibit. I do not take this thing to heart, I am going to live long enough to make an exhibit at the next Centennial to make up for this.

Mr. Jewett—Now, I make a motion that this meeting give a vote of thanks to Mr. Hatch, Mr. Toole, Mr. Philips, Pres. Kellogg and Mr. Coe for the work they did.

Motion receives a second and is carried.

Mr. Philips—I would say that we have with us this morning Mr. and Mrs. Underwood of Minnesota and Mr. Guilford of Iowa. I move that we make them honorary members of our society for the ensuing year, and ask them to take part in our discussions.

Motion is carried.

President—We will call upon Mr. Underwood.

Mr. Underwood—It is a great pleasure for me to be with you this morning, and when I reflect that it is 19 years since I have met with you, it does not seem as though I had done justice to myself, and that I have missed opportunities to meet so many good men and women, from whom I am sure I could have learned many good things, that would have saved me disappointments that I have met with in the last 19 years. I have been associated with the work of the Horticultural Society of Minnesota, having been on the executive board and president of the society, and feel a great interest in associations of this kind. I have thought of Wisconsin as being a sister society of ours. I like the fellowship that certainly should exist between the two states. I am glad that I shall have this opportunity to meet with you, and I thank you for the cordial invitation extended to Mrs. Underwood and myself to take part in your deliberations, and I hope that you will be free to contribute to my information, that I may go back with many valuable suggestions for future guidance. I thank you. (Applause.)

President—We have also with us Mr. Guilford of the state society of Iowa. Members, I have the pleasure of introducing to you Mr. Guilford of Iowa.

Mr. Guilford—I am delighted at this opportunity to be with you who have so many interests in common with Iowa. There is no state in the Union that has so many object lessons as Wisconsin. I have been carefully noting the progress you have made, and it is gratifying for me to be here with you to-day. I am sorry I cannot return that full measurement of usefulness that you have accorded Iowa, when I remember the useful members you have sent to us lately. Why, we had but to touch the button, and we got all the information that we wanted. If I can be available I will be glad to have you call on me. Thanks for the honor.

Mrs. Underwood called for.

Mrs. Underwood—I think Mr. Underwood included me in his remarks.

Mr. Barnes moves that a vote of thanks be extended to all who contributed to the success of the Omaha exhibit.

Motion received a second and is carried.

Mr. Hoxie—What has this exhibit cost us?

President—The financial part of this report will be reported in a subsequent meeting of this society, but it is about \$800.00.

President—Next topic upon our program, "Report to Date of New Trial Orchard," by A. J. Philips of West Salem.

A. J. PHILIPS' REPORT OF TRIAL ORCHARD TO FEBRUARY 1, 1899.

Third Season After First Planting.

In the spring of 1898 I filled in all the vacant places in the commercial orchard consisting of about thirty trees and planted two of the Flushing Spitzenburg sent by Harry Tarrant, and two Broughton Sweet sent by G. J. Kellogg, in the experimental orchard; also planted nine varieties in the experimental plat, one-third of which are Virginia crabs, to continue the top working experiments already begun. I put into the Virginia crabs which were planted the first year about three hundred grafts, of which eighty-five per cent. grew and are looking well and healthy. And though we have had a few quite cold days the present winter I have no fear of injury so far, as the cold was of short duration. I set in spring of 1898 one hundred and forty plum trees, consisting of Cheeny, Aitkin, Rollingstone, De Soto, Hawkeye, Wyant, Mankato, Surprise, Pilot and New Ulm, all of which started to grow and seem to be at home there. I also set about the same number of cherry trees, most of which were Early Richmond, some Late Richmond, a few Dyehouse and half a dozen of the Valdimar, a Russian variety. I set these trees after consultation with other members of the committee, as those we set the first year have grown so remarkably well.

To carry on the experiments already begun there should be about the same number of grafts put in the coming spring, for which I cut the cions last fall. Then the first year's setting of the Virginia will be most all changed over. I think this is by far the most valuable experiment for northern Wisconsin that so far has been tried. I spent in all about fifteen days in the interest of this orchard last year and in the fall I invited Henry Tarrant to visit it, as I wanted the opinion of an experienced orchardist on the orchard. He seemed pleased with the trees and location, and so far I am more than pleased with the growth the trees are making. The Avista grows so fine there that if I owned the orchard I would set 100 more of them the coming spring. Mr. Single is talking of selling the farm, which I regret, as he has taken so much pains to learn the work that I dislike to make a change. I wish our state could be persuaded to buy the orchard site and own it, as I believe it will in the near future be a valuable piece of property. We have room for about seventy-five more trees, which space I thought best to hold for the use of new varieties which are appearing from time to time. This orchard is being inquired about and is being watched by horticulturists in other as well as in our own state. A lady friend of mine, to whom I gave a list of our best varieties in 1884, who was then planting an orchard in Dakota and who raised and marketed nine thousand bushels of apples last season, wrote me about one year ago saying: "If you Wisconsin people had only gone into this twenty years ago it would have saved the people or planters much money which has been spent on varieties not adapted to the north." I feel, as I said last year, an interest in it second only to my own, and it is my sincere wish that whoever is intrusted with its continuance and care will see to it that the experiments so well begun may be continued for a term of years along the same lines. I paid every tree a special visit last fall and find we need 100 root grafts, 140 cions, and 12 trees to complete the setting and grafting already done. The plat in Mr. Single's possession shows the name of every tree and where and by whom it was grown. The two-year-old trees that were set are gaining gradually on those that were four years old when set. This report is not long, but when published please read it in connection with

the report published in 1898, and you will get a very good idea of what we have done and are doing in the trial orchard at Wausau.

All of which is respectfully submitted.

Mr. Hoxie—I wish to ask if this is the only plat worked by Mr. Single.

Answer—Yes.

Question—How many acres?

Answer—Ten.

Mr. Philips—I am sorry that we located it there. We expected that the title was all right. We saw Mr. Silverthorn, who said the title is in his mother's name, but we can make up a lease and she will sign it. It is a valuable piece of property.

Question—Is it worth \$100.00 an acre?

Mr. Philips—If those trees were on my land, I would say it is worth more.

Mr. Barnes—I have taken, next to Mr. Philips, a great interest in this farm. The probabilities are that it will be sold soon. I have made some inquiries as Mr. Philips has. I saw a state senator today, who said he was going to buy that farm and make money out of it. I wish the state would buy the ten acres. It is the grandest object lesson, and it is a small matter for this state. And, further, Mr. President, I wish to contribute the 100 root grafts.

President—We will defer this discussion until we have heard from Mr. Tarrant.

Henry Tarrant—The secretary notified me to have a short report on new trial orchard for this meeting.

As I have written quite a long letter to the Horticulturist, and as the editor has published it in the December number, I feel as if I have not much new to offer. In fact, I shall have to repeat some things I have said in that letter in this report, making it supplementary to the report in the Horticulturist. Speaking of the location, I have nothing to add; it is as fine a location as could have been found for the purpose, the soil I believe being adapted to fruit raising. Mr. Single told me there were large tracts of such land to the northwest of his place, with a similar soil. The growth of the trees shows its adaptability—

located where it can be seen on public roads and near Wausau. And Mr. Philips' idea of having the summer meeting of the society at this place two or three years hence is a good one.

The work done so far seems to me to be in the right direction; the setting hardy stocks, principally crab stock—none better, I think, than the Virginia variety, it being thrifty and branches suitably. I have tried both it and the Shields, as well as others, but the Virginia is far the best. It branches more suitably than the Shields and is a better grower, and on that account it is the best stock I know of; and a few of the tenderer kinds of apple I believe can be top-worked on Virginia stock, which we cannot raise root-grafted on account of the liability to spoil in crotches. In about two or three years this orchard will be worth a journey to Wausau to a fruitman to see, if the present management is carried out.

I do not recall all the different varieties we have planted in the orchard. I wish there were more of the Windsor; if my memory serves me right, there are but two of that variety. It blights a little with us, but so far promises better than N. W. Greening in south part of the state on prairie soil. The Lindfield, as named by Mr. Barnes, is a very healthy, strong growing variety; in the trial orchard the trees are all looking well and growing good. I noticed a few blossom buds on some trees, and no blight. The trees have been well taken care of by Mr. Single, and I think his interest in the orchard will be enhanced as the trees begin to bear. The plum trees are remarkably healthy looking and have made a fine growth for the time they have been set out and promise to bear fruit this year. The cherry trees are stocky, healthy trees; I did not get the names of the varieties planted in the orchard; those from L. G. Kellogg remarkably so.

From an orchardist's standpoint of forty years' standing—for it will be forty years this spring since I set my first apple tree—I think this is a valuable lesson for the younger men, especially in that part of the state where the orchard is located. If I had had such a chance forty years ago I think I might have a commercial orchard on my farm that I might be proud of; as it is, my orchards are experimental and I have about 200 varieties of apples now growing, or did have when I set them, which I have been

doing every year I think with but one exception the last forty years. If I was ten years younger I would start a new orchard with about ten varieties. No more. I would not care if the orchard was ten or twenty acres. I feel the fruit could be disposed of. I hope Mr. Philips can be retained to carry on his experiments in this orchard; three or four years at least will be required to have those trees top-worked as contemplated.

Mr. Philips—My plan is to set out a two-year-old and then top-work at three. The younger you can do it, the better union you have.

Mr. Guilford—I have taken and top-grafted across the nursery row. I have an orchard of 100 trees grafted on Virginia crab. Coming events cast a shadow before, and I am a little afraid of the Virginia crab.

Mr. Barnes—We are glad to hear from our friends and good neighbors, but the question is, "How can we secure this trial orchard?" Had we better appoint a committee to draft a resolution and present it to the legislature? We want to secure that orchard. You cannot imagine how much benefit it will be to the state of Wisconsin. It will be a model to go by. Let us do something. I will do as much or more than any man in the state. I will contribute if it is necessary.

Mr. Hatch—I want to say that the interest of the society is not jeopardized by the financial condition of Mr. Single. You will find more room to plant in spring than you will want. I guarantee that you will have more experiences to report next spring that you have never had before. Talk about trees growing good—how do you know when they are growing good?

Mr. Barnes—When they are making a good, healthy growth.

Mr. Tarrant—When the leaves drop off in the fall.

Mr. Hatch—Now, then, do you know that you have the right elements in there? You might for that matter mature pigs, no matter what you have fed them. Nature will test your trees and see what your elements are. Your lease is good. Do not borrow trouble.

Mr. Hoxie—Supposing the lease runs 20 years; we do not need it that time. This is for a trial orchard not a commercial

orchard. Can we raise fruit as far north as Wausau? That is all we want to know.

Mr. Reed—These gentlemen seem to overlook one point. If we have an orchard there must be someone there to look after it who will take care of it. Our friend Philips will look after it once in a while, but it wants someone there all the time.

Mr. Kellogg—Touching the matter of the stock of the Virginia crab, anybody who has visited Mr. Philips' orchard, where he has been grafting it for 18 years, will have no doubt about the adaptability of grafting. The further north we get the better it adapts itself. After it is grafted, we have no trouble with the blight. It is the grandest stock for half hardy varieties that we know of. We should look after this trial orchard with a view of having someone there who is interested in it.

Mr. Toole—It does not seem to me that we can undertake as a society to look after the personal interest of Wisconsin.

Mr. Philips—I would say that Mr. Single has been trying to effect the sale of the farm and have the parties take care of the orchard. I do not believe in asking the legislature; they are asked too much. I am not in favor of an appropriation.

Mr. Johnson—It seems to me that this is a proper matter for the executive committee to settle. I move that it be brought before them.

Motion received a second and is carried.

Mr. Barnes—We had a trial acre at Weyauwega, and when we got a little benefit out of it we dropped it. Do not let us drop this.

Mr. Philips—What we learned from the trial orchard at Weyauwega, we learned this, that a five-year lease was too short; so when we leased this we leased it for 20 years. The object lesson was there.

President Kellogg—Don't let us cross bridges before we get to them.

Mr. Guilford—In regard to finding a man with a crowd of good boys to look after this farm (as suggested by Mr. Philips), I have a neighbor who has 600 acres, and nine boys, and he is one of the most thrifty farmers there.

Mr. Philips tells a story. Much laughter.

Tuesday P. M.

President called meeting to order.

Mr. Philips—Mr. Chairman: We had expected a paper this evening from the Hon. J. A. Gaynor of Grand Rapids. Just received the following letter from him. (Reads letter.) Suggests re-arranging the program to put Mr. Gaynor on Wednesday instead of Tuesday evening.

President—As many of our members are interested in the exhibit of apples and our delegate from Iowa signified a willingness this morning to assist us in any manner possible, I will appoint Mr. Guilford as committee on Awards, to act with Mr. Johnson.

President—I would ask if the secretary is ready to submit the bill of the Omaha exhibit.

Secretary—Mr. Coe can give that better than I can.

Mr. Coe—It is \$818.32. That includes everything.

President—Is there anything further before we proceed with our program as mapped out for this afternoon?

Mr. Hoxie—I wish to announce that the Forestry Association will hold a session in the senate chamber this evening at 7:30.

President—We will now take up the one subject left over from the morning session, "Report of the Editor of the Magazine."

Mrs. Johnson—Mr. President, and Members of the Wisconsin Horticultural Society: I give you cordial greeting and submit this report. In accordance with the action of the Executive committee we have printed 500 copies of the Horticulturist each month, with two exceptions: in March we printed 1,000 copies, with the consent of the Executive committee. (That was the Short Course number.) And then one month we only printed 450. The reason was we ran out of covers. Total expense of printing for the year, including the February number which is not out yet, \$309.21. Salary of editor was \$200. For illustrations, including express charges, postage, etc., \$38.98. Other incidental expenses about \$38.00 to \$40.00. Total expense of publishing the magazine has been about \$588.00. Re-

ceived for advertisements, \$27.50. For subscription and the sale of some of the plates that we had, the whole income from these sources has been \$65.52. There are still some subscriptions which have not been collected. You will see from this that we have come within the limit of the \$500.00 allowed us by the society. What we have spent above this amount we have received from other sources. I have looked carefully over some of the ads. in magazines that come to my desk. Well, we would not take that class of ads. even if we were paid for them. I do not mean that any of them violate the United States law with regard to the circulation of vile literature, but many have ads of drop-a-penny-in-the-slot machines, and patent medicines, and that class of material that we do not want in our homes. After studying these papers very thoroughly, I thought Mr. Periam was right when he said it did not make much difference whether we had many ads. or not, so long as we did not go into this class of advertisements.

Mr. Underwood—It seems to me that this subject before us is of such vast importance to the horticultural interests of your state that I do not like to let it pass over without saying something in its behalf. I consider that the publications of our Horticultural Society in Minnesota are of more importance than any other feature. We cannot emphasize it too much. I think your society here would not make a mistake in printing instead of 500 copies, I think you ought to print 5,000 copies. I think you can with the best of conscience ask your legislature to help you to do this work. We have found in our state that unless we ask for something we do not get it. We are therefore very liberal in our requests. If you present the matter to your legislature in the right way, I am sure they would help you.

Mr. Toole—I like to hear the encouraging words of our neighbor Underwood, because last evening the thought was broached to give up the magazine, but instead of giving it up, I hope this start to carry it on will be encouraged. We are glad that we did not give it up last year, and I hope that we will not on account of the despondency of any few individuals, give up this magazine. I am thankful for this word of encouragement, and I hope that we will go ahead and strengthen this magazine.

Mr. Kellogg—I move the matter be referred to the Executive Board.

Motion is carried.

President—We will take up the first subject of our program for this afternoon, "Report of Committees on Observation," as far as heard from. We will call upon our secretary.

Reads reports.

ANNUAL REPORT OF THE GRAND CHUTE HORTICULTURAL SOCIETY.

Our society has held their meetings as usual during the past year, with the exception of the strawberry festival, which was celebrated jointly with our friends throughout the state. The occasion proved to be one of great pleasure and profit to our society, as we feel we received valuable help for future work in horticulture.

Our October meeting was held at the home of Mr. and Mrs. James Wolcott. Nearly 70 persons were in attendance, and the display of fruit and flowers was unusually fine. Mrs. D. Huntley contributed 16 plates of fruit to the exhibit.

At our annual meeting held January 6, the election of officers resulted in the choice of S. R. Merrill, president; Wallace Roblee, vice president; J. P. Buck, treasurer; Mrs. G. L. Finkle, secretary.

Mrs. G. L. Finkle,
Secretary.

The annual meeting of the Ripon Horticultural Society was held Wednesday evening, Jan. 18, 1899. Officers chosen for the ensuing year were as follows: President, W. T. Innis; vice president, B. F. Conant; treasurer, E. Woodruff; secretary, A. S. Crooker. J. M. Bonnell was duly elected to represent this society at the forthcoming annual meeting of the State Horticultural Society the first week in February. We have 45 members.

A. S. Crooker,
Secretary.

Ripon, Wis., Jan. 28, 1899.

REPORT OF WAUPUN SOCIETY.

At our last annual meeting the following officers were elected: J. Gysbers, president; W. M. Tichenor, secretary; H. D. Meenk, treasurer. We have about the same membership as last year, but the interest is running low just now, as every evening when we are to hold our meetings it is stormy or very cold, so some of the members are absent. We hope that when warm weather comes the attendance will be better.

REPORT OF WOOD COUNTY SOCIETY.

Report on the Wood County Horticultural Society for the next annual meeting is probably now in order. The present officers are: President, Peter Brown; vice president, Mrs. N. Peppin; secretary, Geo. T. Rowland; treasurer, Mrs. Katie Miller; librarian, B. M. Vaughan.

During the year the society has held two meetings, both of which were well attended. A movement is on foot to form a reading circle to take up the study of horticulture more systematically than the average farmer takes it up.

To the library have been added during the year three bound volumes and one hundred and eighteen pamphlets and bulletins, and in addition the library has been put on the list of libraries which receive books and pamphlets from the United States government to be returned when no longer wanted by us. In this way our library has received thirty bound volumes and about eighty pamphlets.

Success to the state society is our sincerest wish.

Yours respectfully,

B. M. Vaughan,
Secretary Pro Tem.

REPORT OF EUREKA SOCIETY.

We had our monthly meeting today and our numbers ran up to 80 now above what I sent and we undoubtedly will run

higher. Our annual election resulted as follows: Mrs. Eva Brooks, president; Henry Floyd, first vice president; Mrs. Jennie Chapelle, second vice president; H. H. G. Bradt, recording secretary; Mrs. M. E. Penniman, treasurer; executive committee, Mrs. Alice Schrader, Mrs. J. H. Brewer, Mrs. S. Timon; delegate, H. H. G. Bradt, and if more are allowed, Dr. T. E. Loope and Henry Floyd are elected for that purpose.

OMRO HORTICULTURAL SOCIETY

Numbers about 100. We held twelve meetings and a strawberry social this last year. We had a chrysanthemum show and a display of fancy work and of grains and vegetables. There was a good display of plants and fruits. There were 125 plates of apples and some samples of pears, all grown by farmers living near Omro. We sent two barrels of apples to the Omaha exhibition. We have a good attendance at our regular meetings.

REPORT OF THE JANESVILLE HORTICULTURAL SOCIETY FOR THE YEAR 1898.

But little has been done as a society this year. Individual members, however, have worked as usual and several informal meetings have been held. In December the annual meeting was called and the following officers elected: President, Geo. J. Kellogg; vice president, E. L. Dimock; secretary, E. B. Heimstreet; treasurer, J. B. Whiting. Geo. J. Kellogg was appointed as delegate to the state society.

E. B. Heimstreet,
Secretary.

EUREKA CALLED FOR.

Dr. Loope—I have written no report. We have had regular meetings every month. We hold them in a hall at Eureka, but the interest has not been as widespread as I would like to have it. We had a summer meeting, and it was a grand success.

We had a room full of the finest flowers you ever saw. Perhaps not the choicest, but we had a nice show. We have socials often. We have a regular picnic dinner in the hall, and have a great time. Our membership is somewhere from 60 to 100.

Mr. Philips—I think 85.

Dr. Loope—They have asked me to come here and try to get the summer meeting at Eureka, and of course I am going to try to get it there. We will give you a good time if you see fit to come.

Mr. Philips—Dr. Loope is an active horticulturist, belonging to every horticultural society within thirty miles.

Mrs. Johnson—How often are your meetings held?

Dr. Loope—First Saturday of every month. We have a very faithful band that is there all the time.

Mrs. Johnson—Do you have dinner every time?

Dr. Loope—No, but I think we ought to. (Laughter.)

Mr. Demorest from Waupaca—I am glad to say that our friend is a member of our society. The interest in our society is increasing. We have no regular time of meeting. We meet three or four times a year generally. We have a mid-winter fair. Mr. Philips was present at our meeting this winter. Mr. Barnes is always on hand to talk and he can tell you more than I can.

Mr. Barnes—The congeniality and friendship we find in our society is a thing I would like to speak of. We find our meetings are very interesting. We always have a short program, and I am glad to say with Brother Demorest that the interest in our society is growing. We have as many as 50, 60 or 70 present at a time. We charge a membership fee of twenty-five cents and that includes the whole family. I think it would be a good thing to hold joint meetings with Omro, Ripon or Oshkosh.

President—Next subject is communication from W. A. Taylor of Washington, D. C., in reference to sending a delegate to the next meeting of the American Pomological Society at Philadelphia.

Mr. Philips reads communication.

Mr. Philips—Now, I answered Mr. Taylor saying that I did

not know whether our society would be in favor of appointing and paying the expenses of a delegate. In regard to new fruits I said this: "If you wish to see the largest show of seedling apples, and will offer \$150—for the first premium, \$100, and \$50 for the second—there might be a possibility that our people would compete. He replied saying that he would lay it before the Executive committee. That is where the matters rests now.

Motion—That it will be referred to the Executive committee for further action.

President—It will be so referred.

President—Next topic, "The Handling and Marketing of the Apple Crop." Opened by Mr. Chas. Hirschinger of Baraboo.

Mr. Hirschinger—In facing your apples, if you face two or three tiers you will get a better price for the first carload that you ship, but if you face only one tier you will get a better price for the second carload. Before you pick any apples, you must understand that you must ship by carloads in order to make any money. Buy barrels that will hold three bushels. They must be well ventilated. We pick our apples in the orchard; we have a stone-boat to put them on, and the horses will haul nine barrels in a load. We have a screw press with a lever arrangement. You want to get your apples on a good refrigerator car. You want to be careful in handling your apples, particularly if you are dealing with commission men. They will send you a notice that apples are worth \$3.75 a barrel and that the market is all cleared up; if you send them down you will get about 75 cents for them; but if you say you will take \$1.75 or \$2 for your apples, if they will put their money in a bank, you will be all right. I wish to say that I did not raise as many apples this year as I did two years ago, perhaps not much more than one-half as many. I know more about handling apples than I did two years ago; got more money to show for it. I have not much of it with me, so you need not waylay me. (Laughter.) I notice that Mr. Philips is careful to put me on for five minutes, while he has himself on eight or nine times, and only restricted himself once. (Laughter.)

Mr. Kellogg—Have you ever shipped in carload lots without barrels?

Mr. Hirschinger—Do not think it is a safe way.

Mr. Underwood—Do you have any difficulty with the apples shrinking in the barrels?

Mr. Hirschinger—Not unless the weather is very hot.

Mr. Underwood—I had an experience this fall in barreling apples and putting them in cold storage. They were packed tight and after shipping and putting in cold storage they shrunk in the barrels and were loose. They were faced on both ends. They must have shrunk to have been in that condition.

Mr. Hirschinger—If you had taken your apples and filled your barrels (picking them when they were ripe), they would not have shrunk. Green apples will shrink, but perhaps they were not properly pressed into the barrels.

President—I think we had better listen to all the members' papers on this topic before we begin discussion.

President—Mr. Tuttle called for.

Mr. Tuttle—The greatest trouble we have in marketing apples and getting them ready for market is in the picking. That is the trouble with all the small fruits. It is difficult to get pickers that will pick apples as they should be picked. The only pickers that we have that are reliable, that you can depend upon for good, honest picking, are the American Indians. Our white pickers are too much civilized. (Applause and laughter.) In strawberries and blackberries, for instance, they will one day go over the field leaving a lot on the bushes, and the next day these will be too soft, and they will spoil the whole thing. We have a new competitor in the business of apple growing in Wisconsin, and that is Washington. Washington is now sending its fruit into our market. They shipped a carload to Fargo. They are perfect apples, no codling moth. Fruit is large and fair. They do not use barrels to ship. They use boxes that cost them less than barrels. They get bushel boxes for seven cents apiece. They shipped piles of apples to St. Louis this year, and many went to the state of New York. We have this competitor in the northwest, and unless we can get better rates on the railroads in Wisconsin, they will use us up. When you ship by local freight the railroad gets more out of the apples than you do. We have got to be more particular about our freight.

LOUDON'S SEEDLING GRAPES AT WISCONSIN
STATE FAIR IN 1898.

By J. S. Harris, Judge of Fruits.

One of the most attractive and interesting exhibits seen at the Wisconsin State Fair at Milwaukee in September, 1898, was a magnificent collection of native seedling grapes, comprising 63 distinct varieties, equaling in size and appearance a like number of the popular named varieties that are now in cultivation in this country. Their season ranges from the earliest to the latest. Some of them are so excellent in quality, flavor, productiveness and hardiness of plant, that if they were propagated, they are liable to supersede some of the popular varieties now in cultivation, and as it is a fact that varieties originating in a locality are often best adapted for that and similar locations, these should become of great value for growing in Wisconsin and the region known as the central northwest. All of these varieties have been originated at Janesville, Wis., from the seeds of northern grown fruit, by the careful selection of the seeds and skillful manipulation and cultivation of the plants; and what is most wonderful is that one man in a long lifetime should have succeeded in securing so many first-class varieties of this valuable fruit. Many of them will fill a long felt want for the most northern regions where only the early and hardy grapes can be successfully grown, and it is to be hoped that they will be propagated and put upon the market.

The name of the originator is F. W. Loudon. He is a "grand old man," a public benefactor who has spent the best years of a long and useful life in originating and improving our fruits and demonstrating their adaptation to growing in the most arid regions of our great country, and he stands today the peer of Ephriam Bull of Massachusetts and G. W. Campbell of Ohio in the improvement of the grape, and deserves a place in the front ranks with the greatest pomologists of the age. He was also the originator of "Jessie" strawberry and the "Loudon" raspberry, the best and most valuable red raspberry known, which are giving Wisconsin an enviable reputation for the su-

perb quality of her new creations. Mr. Loudon has a number of other varieties of fruit of his own originating, and some of them show great promise of value. He has now passed his four-score years and is still enthusiastic in his life work, and it is to be hoped that he will be spared yet many, many years and receive due rewards for his noble works.

TIDINGS FROM THE WORLD'S GIRDLER.

Report from E. H. S. Dartt, Supt. of Owatonna Tree Station, Feb. 4, 1899.

In surveying the field of experiment in Minnesota nothing gives us so much evidence of rapid advancement as the tree girdling now being practiced at this station. Previous to commencing this practice we had no way to hurry up tardy bearers except the tedious method of top-grafting. And we had no way of testing the hardiness of a tree except to wait indefinitely for the approach of an old fashioned Minnesota winter, such as the present promises to be. Under such circumstances it was likely to require fifteen to twenty years of time to test a new seedling apple tree as to its hardiness and the kind of fruit it would bear. Now, conditions are changed and we feel that we have the fruit tree well under control.

By this simple, easy and practical process we can in a year's time cause the development of the young tree and bring out all its natural characteristics. If it is tender or predisposed to blight it will likely be killed. But if it is hardy it accommodates itself to these little encroachments on nature's laws and is ever ready to respond to all reasonable demands.

About the first of July, 1897, a large amount of girdling was done by the spiral method in the orchard and nursery. A few trees were killed, but I think not one having a reputation for hardiness and freedom from blight. In the orchard alternate trees from two to four inches in diameter were girdled, and in most cases girdled trees were well loaded with fruit, while on ungirdled trees specimens were few and scattering. In the nursery trees were usually from an inch to two and a half inches

in diameter and from two to six feet apart. More than a hundred varieties were thus brought into bearing, about seventy-five varieties of which were exhibited at our last state fair. Ten or fifteen varieties were new seedlings of great promise.

It will be readily seen that if we can be sure of a crop the next season after girdling then we can certainly bridge over the off year.

It may be of interest for you to know that in the latter part of last June and the fore part of July following I girdled more than a thousand orchard trees from four to eight inches in diameter and I expect a good crop next season which will likely find a bare market and consequently ready sale at good prices. In a climate like ours, where trees are naturally short lived and where our best varieties must slip along between our hard winters, which are often uncomfortably close together, none can fail to appreciate the advantage of being able to bring our trees into bearing whenever it suits our convenience to do so.

With my fifty years of experience in Wisconsin and Minnesota and this recently acquired knowledge, I would plant Minnesota orchard trees six to eight feet apart in the row extending north and south, with rows sixteen feet apart east and west. After two or three years I would girdle alternate rows and after that I should attempt to regulate productiveness by girdling.

If a cold winter killed down my trees I would allow them to grow up again branching from the ground, feeling confident that with a little encouragement they would soon resume business at the old stand.

HANDLING AND MARKETING THE APPLE CROP.

By A. D. Barnes of Waupaca.

The first secret to success in handling and marketing the apple crop is to, first, get the apples; second, to get enough of them to interest the buyers; third, assort them into sizes and varieties by themselves and offer each grade and variety by itself. Refuse to sell the first grade unless the same purchaser will take the second grade at a price agreed upon; sell the culls to the first purchaser that appears even if the price is very low,

or feed to stock immediately. Always separate the culls from the good ones as soon as harvested, for contact is contagious, and it doesn't take a wormy or rotten mess long to damage a fine and choice lot. If you have a large quantity, get the purchaser to come to your orchard and agree upon the price and grade there. Then grade your apples exactly as agreed. Market as soon as they are fit to handle and in prime condition. Never hold for a big price. Never mix red and green apples together, although they may be of equal size and quality. Yellow and green ones may be mixed without much detriment to either, if of same grade and quality. If you are handling a city trade or peddling from house to house, carry your apples in bulk in a deep, clean wagon-box over a set of good springs and covered nicely with a clean, bright canvas to keep the sun and dust off. Open up the hind end of the load to peddle from, so the apples will slope down from top to bottom so your customers can see just what they are going to get, and never pick or allow anyone to pick off from the top of the load. Always have a few crates of culls in the front end under the seat and out of sight, for you will soon strike a customer who wants cheap apples and you can surprise and supply him at once, and in nine cases out of ten they buy the good apples. Charge a good price and give good, big measure, and you will retain your customers. Don't run down anybody's trade or goods, but make your goods so nice and give such good measure that your competitors can't get in on your streets. Be courteous, pleasant and accommodating, and you will find no trouble in marketing your apples, and at a good price, too.

HARVESTING AND MARKETING THE APPLE CROP.

By Henry Tarrant, Janesville.

My orchard being a sort of an experimental one and consisting of so many varieties, I have not much to offer that will be of interest to apple growers in the north part of the state.

I will state that I have not any particular market to ship to, selling my crop mostly in the local markets. We have had fair

prices, for this last year started in seventy-five cents for the earliest. Soon it was down to sixty cents, and we got that price all through for early fall apples. Late fall and early winter I got \$1 for, and could have sold hundreds of bushels if I had had them. The 1897 crop sold better; seventy-five cents about for bulk of crop; \$1 for earliest and same for the latest, except winter apples. Those I hand-pick and sell by the barrel. Have not so many winter as I wish I had, and I expect to hear the same remark from others here.

We market our crop in bushel boxes; we deliver about two or three times a week. My son takes a large load, sometimes part apples and early potatoes. We sell early potatoes, and the two work well together. We have sold the last two years in Beloit. Janesville has not been so good a market as it used to be. I think Brother Kellogg has induced more farmers to set out Duchess trees, I think is one reason. But then, there is not one-half of the farms that have a Duchess tree on it, or any other, I believe.

A few words on varieties. We have some Tetofski not large enough to be very profitable, but were smooth and fair this year. Duchess was a full crop and sold well. Yellow Transparent sold well; needs to be gathered before fully ripe, or rather, colored; have to handle with care, and are a good selling eating apple. Duchess sells from two-thirds grown till ripe at fair prices any year. Then we have St. Lawrence every apple year; a good market apple while it lasts. Then comes Patten's Greening, which has done well for the trees I have; and McMann, I have more trees of this variety and can sell them by the barrel. Longfield also by barrel; very heavy bearers, and if you trim the trees, cut out the small limbs and thin the fruit, you will get fair-sized, marketable apples that will sell in our home markets for eating apples, including that best of all fall apples, Wealthy. To sum up, I have always found a market for the late fall apples at fair prices, including the last three named, also Dominica, Fameuse, Tallman Sweet; the five or six varieties will always sell in this southern Wisconsin if properly harvested and kept in a cool place and marketed before Michigan apples are placed on the market. The winter apples we barrel

and sell as we think best. Willow Twig has stood first in money, I think, but the trees are decaying fast now and I have but few trees left, not being able to procure any trees for a long time back, except a very few which I have set out. One year I had 50 barrels of Ben Davis, but the winter 1884-85 weakened the trees and they continued to die. I have not one of those trees left. Malinda has proved a prolific bearer with age and a saleable apple. I am top-working some with the expectation of their fruiting earlier. The first one I top-worked four years last spring; it blossomed but did not set fruit. I find the Minkler a good bearer of marketable apples top-worked, and keeps till spring. Am pleased with this variety. A friend of mine, B. H. Smith, has one tree of them which he is proud of; also Grimes' Golden, Northern Spy, and other choice fruit. I have commenced to top-work these and other half-hardy varieties for a better class of apples. At present the Windsor is my first choice; Flushing Spitzenburg is a good apple and does well with us too. Trim your trees to let in the sun, thin your fruit when about the size of marbles, and gather early and carefully; then you will have a market for your fall apples. If someone will tell us how to successfully fight the insect enemies and different forms of blight we may succeed in making our orchards profitable.

Mr. Hatch—When I came back from Omaha I went to Richland county, and there on the street I saw a man come along with a load of apples. He had been selling his apples at 40 and 45 cents a bushel. Two dollars had been offered for the same apples packed in barrels at the railroad station. While attending a farm institute in Kewaunee county I was in a village store, and the merchant told me he bought apples at 12 1-2 cents per bushel. At the same time a friend of mine just sold his apples for \$3.25 per barrel. Well, now, the question that you are interested in is not what the stupid folks are doing but what can we do to handle and market the apple crop. Of course an apple crop to be well handled must be well grown. There is no package equal to the barrel. There is nothing so practical as the barrel. Mr. Tuttle tells us about buying bushel boxes

for seven cents apiece. Prof. Goff got information as to where barrels can be had direct from the stave factory. He got a car-load, had them shipped as cooperage, and they cost him set up twenty-two cents apiece. Now, about picking apples; they must be handled different in hot weather than we would handle them in cold weather. If we are going to pick summer apples the question is when to pick them. People wait until the apples are too ripe. They must be picked when they are well colored, but before they become mellow. I have begun to ship on the 24th of July the Tetofski. If I had waited a week, I would not have been able to pick them. Now, some of the early apples, as, for instance, the Astrachan, some will be ripe while others are not. You will have to go over some of the trees as often as three times, beginning when the seeds are well browned. The picking part there is very important. Whatever falls on the ground in picking I do not put into the package. Now, about pickers, I have never employed Indians or squaws; I think white folks are all right. I always pack direct in the orchard, and ship when I get them ready. Except the Orange Winter, etc., I put them in cold storage. For summer apples I want ventilated barrels, and use refrigerator cars for shipping. It is absolutely necessary in packing apples that they should be well shaken in the barrels. Put in a bushel and then shake and then after adding every half-bushel shake again. I have a press that I take in the orchard. Of course I have a stone-boat which I use also.

Question—Would a farmer's handy wagon do?

Mr. Hatch—Well, that would not make much difference, if the apples are well packed. In the matter of shrinkage, there is something about that that is not fully understood. The Russett will shrink more than others. The Golden Russett will shrink when other apples will not. We know that certain fruits will require ventilated barrels, where other fruits will require unventilated. Handling the apples once is the best thing to do with the earlier shipments. Apples of Michigan, like the Ben Davis, are generally stored for awhile in the orchard and then re-sorted on packing tables. Cool and moist air is essential. As to whether you shall consign them to commission men or send direct is a matter each man must decide for himself.

President—We will now call for Prof. Goff.

Prof. Goff—I have not much to add on packing apples except in one particular. I observed last fall that there was a tendency among the apple growers in Richland county to crowd into the barrels anything that they thought could possibly go through. I saw a buyer go into a car, open a barrel and take out a rotten apple. He found all sorts of apples in the barrels—good, bad and indifferent; sound and unsound. He rejected the whole lot. This was the worst case that came under my observation, but in most every case the growers attempted to crowd in everything that would go in. This sort of thing will ruin any business. We ought to have a standard and to live up to it. We adopted a standard in my own orchard; whether it was too high or not, I do not know. I think it is better to sell a second quality apple for second quality, and not to mix first and second quality apples in the same barrel. We do not make anything by doing this. Perhaps after I have been marketing apples longer I may do as other people do; I do not know about that. Some of our growers did not want to be bothered with two qualities of apples, but after making some trials, I concluded that this plan was best for me; that is, one quality as fancy apples, and the other as ordinary.

Mr. Hatch—Will Prof. Goff tell us about his barrel purchase?

Prof. Goff—After I concluded that I would need barrels, and that was last winter, I began to inquire where to get them. I did not know where the barrels were manufactured, but I knew that the St. Paul Railway Co. employ an agent, whose business it is to locate industries on their line. So I asked him to send me a list of the barrel manufacturers on the St. Paul road, which he did. I corresponded with them and I found that I could make better terms than I had been offered at Richland Center. So I ordered a carload. We had the barrels made up on our place. This saved much in transportation. We are now arranging to secure another carload. The man who sets them up charges six cents apiece, or seven cents if he boards himself. The cost, aside from team work, was about twenty cents each.

Mr. Philips—Do you ship to commission men or on orders?

Prof. Goff—Both ways, and we sold some on the ground. The buyers came to our orchard, looked the apples over, and made us an offer.

Mr. Hatch—Did you use refrigerator cars?

Prof. Goff—We did not, but I think we would have done better if we had.

Dr. Loope—You spoke of your apples keeping poorly. What varieties did not keep?

Prof. Goff—The Fameuse disappointed us most.

Question to Prof. Goff—When did you pick your apples?

Prof. Goff—Early part of October. The picking was doubtless too late, but the crop was so large we could not do it sooner.

Mr. Babcock—What was the price?

Prof. Goff—Ranging from \$3.50 to \$4.00.

Mr. Hatch—What variety?

Prof. Goff—Lubsk Queen. Sells for its beauty more than its quality.

Mr. Reed—What price did you get for Duchess?

Prof. Goff—Rather low. Many of them dropped. As low as \$1.50 and as high as \$2.00. The storm we had early in the fall did great harm to our Duchess apples.

Mr. Floyd—Did you have a fungus growth?

Prof. Goff—We did; our spraying did not do as much good as we had hoped.

Mr. Floyd—Had they been sprayed before?

Prof. Goff—Yes, every year. In regard to the Snow apples, we had many that looked like models from the ground, but they had a scab on the upper half. The men that bought them bought them from below. (Much laughter.)

Mr. Barnes—It is a good thing to sell your apples in the orchard. I corresponded with different people and succeeded in getting buyers from different places. We sold Wealthy and Wolf River at \$1.50 and \$2.00 on the cars.

Mr. Hirschinger—There are two or three things that are bothering me very much. I would like to get them off my mind. Mr. Hatch told us that we must pick our apples cool. Our apples almost cooked on the trees. Mr. Barnes also advised us to haul our apples in a wagon. Now we have hills in

Baraboo, and I would not advise you to do as he says. (Laughter.)

Mr. Hatch—I seldom put in more than 150 barrels in a car, and usually about 80; the neighbors put in the rest. We put in 200 barrels or so. About picking the apples cool, I pick them early in the evening, and from the time the apples were picked until they were on the car would seldom be more than two days, and we followed this plan for several years. About picking apples in the rain, we have done so, and it does not hurt them a particle. I would rather do that than pick them when they are warm.

Dr. Loope—There were 12,000 to 15,000 barrels of apples shipped out of Berlin last fall. Just fall apples.

Mr. Barnes—I think there were 40 cars shipped from Wau-paca and Weyauwega, and 2,000 bushels hauled out of the county by one man's team.

Mr. Kellogg—Did you succeed in spraying for the coddling moth this year, Prof. Goff?

Prof. Goff—We succeeded in the spraying. (Laughter.) The apples were fairly free from coddling moth.

Mr. Floyd—We did not see hardly a coddling moth, but the year before we had no apples to speak of. Certain families of apples were free from this fungus, but the Snows and the Wealthy were very much affected.

President—The next topic upon our program, "Six five-minute papers on Mistakes and Failures of Fruit Growing," opened by Mr. Edwards.

Mr. F. C. Edwards—I suppose why this question came up was because one of our members said he would like to hear something of our failures and mistakes, instead of our successes.

MISTAKES AND FAILURES IN FRUIT GROWING.

By F. C. Edwards.

The first mistake I could mention is the one of Adam and Eve eating, not raising, the forbidden fruit, as this changed the whole plan of production. Since that date, disease, drouth, in-

sects and weeds have made the sweat drop freely from the brow of man. Life, from beginning to end, is a ceaseless record of mistakes and failures. The idea that fruit culture is all profit and sunshine is as far from truth as the east is from the west, and this is true also of any other occupation. It is a snare and a delusion for a person discussing the fruit question or any subject, not to put in the good and the evil, the pleasant and the unpleasant items in fair proportions and not lead the innocent into hard places. But we will now discuss the dark side of the business.

As a rule our papers are apt to smooth over the rough places. Failures occur with the merchant, stock raiser and grain raiser, as well as the fruit grower, and sometimes they are very sweeping ones. During the dry seasons of the last eight or ten years, failure, to a large extent, has been the rule, the last two years on prices and the remainder of the time on account of light yield, making margins too small for a living profit. The means of support directly from fruit in this series of years has been very meager indeed, and many have gone back to general farming, in part or wholly, to get a living, and many more will be compelled to follow very soon or go to the poorhouse. Some of the causes that have made this the case are as follows: The planting heavily by beginners with no knowledge of fruits or markets. My counsel would be to start at the bottom instead of tumbling from the top. Another mistake is the planting of too many varieties as the market calls for a fruit of a fixed type. I am perfectly safe in saying there will be planted next spring in Wisconsin seventy-five varieties of apples, fifteen varieties of cherries, twenty varieties of pears, and twenty-five varieties of plums, when we know there is not one in six of these sorts adapted to our climate. And I am sure it costs our state more money each year than it does to run all our farm institutes, and this is a very low estimate.

Another mistake is the purchasing of nursery stock from irresponsible parties that promise everything, and do nothing according to contract.

Another mistake, very poor care given to the old orchards to prolong their lives and increase their productiveness. Many times an old horse with good feeding and care doubles his la-

bors in the world. Our veteran fruit growers, under good appreciation of their labors, are more apt to leave a richer legacy for our present and future study. Another mistake is not protecting the stem of our fruit trees till they are eight or ten years of age. Use rye straw cut green and placed around the tree in an upright position, tying on with wool twine and replacing every two years; this is the cheapest insurance in the world. Another item, not spraying the fruit trees before and after they blossom, with a cheap and effective solution.

Another great mistake, not subscribing for the Wisconsin Horticulturist, which is made up of Wisconsin thought and experience.

Small fruit mistakes—Do not let strawberry plants in the matted row system form plants closer than six inches to their nearest neighbor and then they won't quarrel over the soil. Not renewing the strawberry beds every two years at least, on other soil. Not planting the rows of our raspberry and blackberry fields seven to eight feet apart and not renewing the raspberry beds every five or six years.

Not pruning our new raspberry and blackberry bushes to 18 to 24 inches height in June. Not pruning our currant and gooseberry bushes, leaving five or six canes of the old wood and a spreading open top, removing all the new canes each year except one or two to take the place of an old veteran. Not planting grapes on well drained soil, with plenty of manure and cultivation first year. Not pruning the hills in the fall, causing a great waste of vitality by bleeding, and not giving partial protection by covering.

But one of the greatest errors of all is failing to give persistent and thorough cultivation of all fruit trees, plants and vines till August 1st to 10th, and not later (except strawberries), so that all wood will ripen and harden and store up material all through the plant or tree life to withstand our severe winters. If this method was used it would save at least \$10,000 each year in losses by winter killing and fruit production in our state. The mistakes and failures in fruit growing, in detail, would fill a large book. I have mentioned a few and leave the remainder to the other speakers.

Fort Atkinson, Wis.

Mr. Johnson will next take up this subject.

Followed by Mr. Babcock—When I received this program, I thought there was a conundrum that I could not crack. I thought awhile and then concluded that I would write something. I tried to write but it would not come together. About 23 years ago we bought a farm. We let our orchard go several years until the weeds got ahead of the apples, and I plowed them down. We then thought we would try planting some strawberries and raspberries, as they had been recommended to keep out all the weeds. They bore fruit for six years, all that we and our neighbors wanted. That was the only success. But then that barley grass came along and that wiped out the berries. The weeds got ahead of the raspberries. Mr. Philips once visited my orchard and said: "You have an awful orchard here; why do you not thin it out?" I did so and now I have more success with my apples. I have several colonies of bees in my orchard and I think they help me more than anything else. I get better fruit and more of it. I have learned that you cannot raise small fruits in weeds, nor apples without care.

Dr. Loope reads paper.

The trouble is that this question is not put right. It should read, "The Mistakes and Failures of our Neighbors." (Laughter.)

Mr. Barnes—I understand that Babcock planted the Crescent strawberry and that it fruited for six years. Now, I was always under the impression that it would never fruit without fertilization.

Mr. Babcock—I could not tell anything about that. (Laughter.)

Mr. Philips—I think I can explain that a little. I have an idea that Mrs. Babcock took care of them and fertilized them.

Mr. Tuttle—I think I planted the first Crescent berries in Wisconsin. I set out 20 plants, and from those 20 plants I planted one-third acre, all Crescent, and on the one side was Wilson, and on the other side Prouty; but the whole center, 10 or 12 rods in width, was solid Crescents. I had over 100 bushels of berries from that one-third acre.

President—We will now give Mr. Chappell a chance to make the closing remarks on this question.

Mr. Chappell—I do not expect to say anything here that is going to educate you very much. You want to know my failures. I made many failures in planting many kinds and varieties that I should not plant, too many kinds that were not of any use. Some of my apples, for instance, were too tender, too short-lived, probably owing to the management when I got them. Many kinds proved not true to name. I was disgusted. Now, the idea is to learn what we do want. This has been the hardest work I have done. I have found the two kinds I believe are of benefit to us. I claim that we want to, in the first place, have our ground well fitted and well worked. I want to say one thing in regard to salting. I have argued this many times. Some do not seem to understand it. They seem to think I dump it onto the trees. I spread it on evenly and it stops the blight. I have put it on the Martha crab. I dug a trench as large as a barrel and put in one quart of salt and put 14 quarts of water on it, and I saw no blight for five or six years.

Mr. Philips—I have grown the Martha crab for 10 years and never saw it blight; it must be some other variety.

Mr. Chappell—I do not mean the Martha crab. It looks like the Duchess but is smaller. It may not be the Martha.

President—Our meeting this evening will be in the Senate Chamber, and as Mr. Gaynor will not be here, Mrs. Underwood has kindly offered to read her paper in his place.

Tuesday Evening, 7:30 P. M.

Senate Chamber.

TOWN, VILLAGE AND COUNTRY IMPROVEMENT.

Mrs. Anna B. Underwood, Lake City Minn.

There is a movement abroad in the land which demands our consideration, not only because of its worth, but because the State Horticultural Society is, by virtue of its long experience, naturally qualified to be of great service to it. This movement,

if not inaugurated by, has received the hearty endorsement of the various State Federations of Women's Clubs. These Federations have accomplished great results through their systematic efforts, especially with those questions in which women are most interested. Annually they have been drawn together to talk over the work of the past year and to form plans for the future. So far their attention has been mainly directed toward the educational features of reform, not alone considering courses of study to be pursued in the school-room, but weighing carefully the results of school life as pertaining to and influencing the future manhood and womanhood of the children. All realize that something is lacking in the discipline that is brought to bear upon child life. Perhaps it is the fault of birth, of acquired surroundings, or imperfect instruction in the school-room. Whatever it is, it must be brought to light and a remedy found and applied. Men and women in all classes of life are striving to solve the problem of unrest that seems to bid defiance to all law and order. Many are the plans advanced and tried for regulating the various evils and when one part of our world seems to be well regulated and in good running order, lo! our hearts are torn over the miseries exhibited in another part.

The club women of Minnesota are banded together to guard and preserve the essential requisites of true home-making, and I presume the same is true of the Federated Women's Clubs of Wisconsin. Their homes may be all that heart could desire, but they know that there are many in which inharmony with its attendant miseries reigns supreme. They have assumed the task of tracing to its source the cause of unhappy conditions of home, village and country life, to be followed up by strenuous efforts to establish a new order of things. Here is a feature of their educational work: to gain an entrance into these homes, and by instruction, accompanied by coercion if necessary, bring the occupants into the fold of right thinking and right living. "Am I my brother's keeper?" Yes, in so far as being responsible for his unfortunate condition is concerned, and responsibility does not cease until every home is brought to the highest standard possible.

Discontent in the smaller towns, villages and country, gives rise to a general exodus to the larger cities, without conditions

being changed for the better. We have heard this aphorism for years: "Make the home pleasant and attractive and the children will love it and be loth to leave it." Let us change the words and have it read this way: "Make the town, village and country beautiful, and the inhabitants will love them and be loth to leave them." It is as true as the other.

Acknowledging this fact, many women are interesting themselves in what may be classed as "Town or Village Improvement" clubs or leagues. The object of a club or league of this kind is to study into the needs of towns and villages, to arouse and encourage general interest in the work of improvement, and to suggest simple, practical methods for beginning the work. The cities are planning constantly to make their surroundings more beautiful, thereby involving the expenditure of vast sums of money. They are awaking to the fact that generous park systems are essential to give them prestige with the great traveling public to say nothing of administering to the daily pleasure and comfort of the residents. These days record a kindly rivalry between them to see which shall have the greatest number of acres of parks per capita. We, in the outlying country, may admire the energy that brings this about, but at the same time we should be encouraged to emulate it as far as possible. The smaller towns and villages need to be aroused to action, to realize the needs and possibilities of their own surroundings. First of all, they should rid themselves of unsightly objects and unwholesome places. Weeds should be kept down on vacant lots and unused streets; all tumble-down fences should be straightened up or taken away, and dilapidated buildings removed. It is a mistaken idea that we are responsible for our own yards only. If we, through education and other advantages, are fitted to keep home grounds in perfect order, it is only part of our duty to do so; the balance of our duty requires us to help others to reach the same standard. Of course, a slovenly kept yard cannot be entered and put to order, but the streets, which are the common property of all, the grounds around all public buildings, the buildings themselves, can be operated upon by arousing public sentiment, and very soon the owners of all unkempt, unpleasant looking places will fall into line and keep

step in the march of improvement; if only through self interest in increasing the value of their own property.

All appreciate the value of little things in influencing the general welfare, for good or ill. "Tall oaks from little acorns grow." The tall oak, if scraggy, gnarled and twisted out of shape, is a difficult subject to remodel; but the tiny acorn, from the time it puts forth its first leaves above the ground, is susceptible to any influence that may be brought to bear upon it. This is the idea to work upon as applied to the higher order of life in man. If a child is taught to be cleanly and orderly, thoughtful and considerate of the comfort of others, the habit formed will follow him through life and will manifest itself throughout the larger avenues of experience.

This thought evidently influenced the Town and Village Improvement Committee of the Minnesota State Federation to put forth the cards of "Dos and Don'ts."

DO

Make your yard and street in front as clean and pretty as you can.

Plant or help plant shade trees.

Cultivate as many flowers as possible.

Bury or burn all tin cans or other rubbish.

Pick up and destroy all loose paper, small branches and similar things.

Dig up and burn unsightly and harmful weeds.

Pile wood neatly, dispose of all ash heaps, and keep a tidy back yard.

DON'T

Throw upon the sidewalk, or into the street, banana or orange skins, watermelon rinds, nut shells or anything else.

Scatter pieces of paper on the street.

Mark sidewalks or buildings.

Injure young shade trees by bending, cutting or shaking.

Spit on sidewalks or floors.

This is a large placard printed in an attractive manner. These are furnished to a local improvement club. A committee

therefrom secures the permission of the school board to place one of these cards in each school-room. Next it secures the interest and co-operation of the teachers and through them the children are placed on their mettle and honor to observe the "Dos and Don'ts." This interest is aroused by free distribution of flower seeds; holding exhibits of the results; holding public meetings in which the children take the prominent part. Having essays written and passed over to the local society, which will have the best ones printed, is an excellent method of insuring the interest of children large and small.

A child taught to observe the requirements of this card will form habits that will later lead him to take a personal interest in all matters pertaining to his own home, that it shall be orderly and pretty; to his own street, that it shall be as fine if not the finest of any; in fact, he will use every effort that his own village, his own town, or his own part of the country, throughout its length and breadth, shall be as beautiful and attractive as it is possible to make it.

If one child alone is educated to adhere to these suggestions, it is well, one home will be made happy; but if all the children of a community, generation after generation, are similarly brought up, what a paradise on earth we would have! Is it not well worth working for?

Women are naturally brought into close relationship with schools, and if a club of women would take up the introduction of this placard into the schools, and should succeed in interesting the scholars and teachers so they would carry out its requirements, the community would be astonished as well as gratified with the results.

In Minnesota a Woman's Auxiliary of the Horticultural Society has been organized. The members call special attention to this one feature of the work to start with, and urge the formation of improvement leagues in every town, village and farming community in the state. Let us note the present condition of such. It seems to be one of general indifference to surroundings. Each man's yard or farm is his castle, figuratively speaking, and he does as he is inclined with it. He can place his house even with the street, thus shutting off the view of an artistic neighbor who wants a well-kept lawn in front of his

home. The owner of the next lot will have a space in front, perhaps, but will have it so full of trees and shrubs that hardly a glimpse of heaven's blue can be seen. As for the ground in the rear of the buildings—well, in one-half of the yards it is the receptacle for rubbish of all grades and descriptions, from chips to a conglomeration of boxes, barrels, tin cans, wash boilers, old stoves, etc., making a pile so high that it looks over with an exultant air into the dainty orderliness of the neighboring yard as if to say: "You can't get rid of me!"

The beautifying of individual homes is laudable and has its influence, encouraging others to like effort, but there are many who, because they cannot do as their more wealthy neighbors have done, feel that there is no use in making an effort to better their surroundings, erroneously thinking, that it is the spacious, elegant house that is the essential and attractive feature of the home.

Have you ever stopped to think how monotonous and unattractive a city would be if all the houses were equal in size and beauty, etc.? How intense and frequent would be the poetic sighs for a "vine embowered log cabin," "a lodge in some vast wilderness," and so on! It is variety that is attractive and satisfying. A tiny home, perfect in all its appointments, snuggling cozily under beautiful vines, a well-kept lawn, all parts of the grounds trim and neat, is a sweet picture to lay away in the memory.

Every town and village should have a park commission, to whom would be entrusted the care and management of all the public grounds, streets, alleys, roadways, etc. The members should be selected for their interest in the work and fitness for the position. They should have an ideal plat of the ground or land under their charge, and should then educate the residents to an appreciation of the necessity of working to such a plan. Such a commission should be qualified to answer such inquiries as: What to plant? How to plant? Where to plant? Without doubt the greater part of the land owners would be only too glad to avail themselves of such a service, having neither time nor ability to study out for themselves the best plan for beautifying their lots. Least of all would they

stop to consider whether their plan would harmonize with the other lots in the block.

Such a commission, having full control of the streets, would have a harmonious whole. A street named Oak street would not be lined with soft maple, or Elm street be lined with white ash. Not a tree would be planted without due consideration as to its merits for the place.

Such a commission would see that the trees are properly pruned, and having secured a fine row of trees, would not allow them to come to harm through neglect or abuse.

Such a commission would use every effort to eradicate the old idea that teams need eighty feet of roadway and that nothing should limit them but the fence lines and it would teach the people that twenty-five or thirty feet, at the most, is all that is necessary.

To quote from an excellent paper written by Chas. M. Loring, president of the Minneapolis Park Commission, and published in the Park and Cemetery: "As a rule the roadways on our residence streets are too wide, and there is not space enough given for trees and other ornamentation. Fine effects are produced on 80-foot streets by making the roadway 30 feet wide, leaving 25 feet inside the curbing on each side, 6 feet of which, next to the lot line, is for a walk, and the 19 feet is for grass and flower beds, or groups of ornamental shrubs, and shade trees planted from forty to fifty feet apart."

Again from the same paper: "Another plan which I have seen in an eastern city gives a park like appearance which is very pleasing. That gives a sidewalk next to the lot line six feet in width, a planting space for grass and trees of six feet, two roadways eighteen feet wide and a center planting space of twenty feet, filled with grass and shrubs, or grass and beds of flowers."

Does not this simple, practical plan appeal to you? Cannot the mental vision picture the outcome of such an orderly, artistic arrangement as this? Cannot you see the peaceful content that comes from having the heart's craving for beauty satisfied, the enlarged field for work and usefulness, homes made so home-like and restful that the inmates are loth to change, and, finally,

a community made a fraternity through its united interest in everything that concerns the general welfare?

The possibilities of this out-door improvement have only been suggested. The general outline and detail work will furnish food for the exercise of an unlimited amount of thought and energy. It is a field that women can occupy, finding therein full scope for the furtherance of philanthropic ideas and practical reform.

A local society organized for the purpose of outdoor improvement would be of vast benefit to the community, for combined effort is always most effective. It can be composed entirely of women whose work will be to agitate these questions, to render assistance where needed, to offer suggestions and encouragement.

I plead for the formation of country improvement clubs, for, although it has been wisely said that "Man made the town and God made the country," still man has sadly interfered with God's work in the country and many unsightly blots on the landscape may be seen.

The country schoolhouse is invariably so forlorn and destitute of beauty that it makes one's heart ache to think of children having to spend so many hours in it. Bare and bleak outside, the same characteristic inside, what wonder that the children strive to leave such surroundings as soon as possible!

The country church, the country "corners," and the cemetery are in similar condition. Every tree and shrub religiously cleared away, no vines, no flowering shrubs, nothing attractive; no wonder that the country boys and girls crave the beauty and attractions of city life.

The country homes—well, all know the average. Although the country is full of beautiful trees, a great number of shrubs and native perennial plants yet, the surroundings indicate that the inmates consider such things as rubbish, and accordingly fill their places with pig-pens, poultry houses, old pots, kettles, broken crockery, etc. Why don't the boys and girls stay on the farm? They will when they are taught the possibilities of country life. They will love its healthful pleasures, its steady assurance of shelter and food, its wealth of vegetation, its pure, bracing air, its freedom and sturdy independence.

Heart to heart with nature, feeling the strong pulsations that start life into its varied manifestations, profiting by the many lessons that she teaches, they will be brought into closer relations with truth and harmony, and in time will master the greatest lesson of all—that all men are brothers, and that personal responsibility does not cease until man is again united by the bond of brotherhood, into the glorious Fraternity of souls that swayed the movements of this globe in the mystic ages past.

Next a paper on the Preservation of the Wood Lot by B. S. Hoxie of Evansville, president of the State Forestry Association.

Report and contents of a bill now before the legislature—Submitted by the State Forestry Association—Ernest Bruncken of Milwaukee, secretary of said association.

FORESTRY LEGISLATION REQUIRED IN WISCONSIN.

By Ernest Bruncken, Secretary of State Forestry Association, Milwaukee, Wis.

The Stout bill providing for the establishment of a department of forestry, following the recommendations of the commission appointed under the law of 1897, failed of passage in the assembly on the last day of the session of 1899. Wisconsin thereby distinctly falls behind her sister states of Michigan and Minnesota, both of which last winter established such departments. Undoubtedly the matter will be brought up again at the next session, and the arguments offered in favor of the late bill will be even more urgent than they were before. Following is the substance of the remarks made by the writer at the meeting of the State Horticultural Society, in behalf of the Stout bill.

A few years ago, whenever the question of a rational treatment of our forest resources came up, it was necessary to first convince people of the necessity of taking steps for their protection at all. At that time the fairy tale of our inexhaustible timber supply was still believed by many. Now nearly everybody knows that the end of the natural wealth of merchantable

timber is in sight, and the question is simply: By what means can we provide for lumber in the future?

The wealth which Wisconsin has derived and still derives from its lumber industry is so great that the disappearance of this source of prosperity will be nothing short of a calamity. We will assume therefore that it is desirable to take whatever steps may be necessary to maintain a portion of the area in the northern part of the state in forest if other interests of importance equal to the lumber business are not thereby made to suffer. The main points here to be considered will be some of the objections commonly raised against the preservation of large areas of forest.

Some of the settlers in Northern Wisconsin have been thrown into such a state of nervous fear by the ravages of the forest fire, that they actually look towards the utter destruction of forests as their only means of salvation. They imagine that fires and forests must necessarily go together, that you cannot have forests without fires. This of course betokens gross ignorance of the situation. Their mental attitude reminds one of that of the farmer who burnt up his barn with all its contents in order to get rid of the vermin infesting it. The northern half of the state can never prosper without the forests. If they were gone the already dry climate of the region would soon approach arid conditions. The large population supported by the lumber and other forest industries is required to give the farmers a home market, for the region could not compete with other, more favorably situated localities if a market had to be sought at a distance. Therefore the entire disappearance of the forests would soon be followed by the disappearance of the farms. The remedy against forest fires must be sought not in doing away with the woods, but in proper police measures for the prevention of fires. Such prevention is possible, as experience elsewhere has demonstrated. But to bring it about, legislation and the proper application of the power of the state is necessary.

A more plausible objection to preserving a considerable part of Northern Wisconsin as forest, is that these lands will soon be needed by agricultural settlers. There is no question about much of the northern part of the state being excellently adapted to various forms of agriculture, provided that the climate suffers no deterioration by too extensive deforestation. It is a principle of

good forest policy that no land should be maintained as forest which would bring higher returns to its owner if used for agricultural purposes. But in Northern Wisconsin there are, by the side of agricultural lands of good quality, also many tracts which are too sandy or too much broken for farming. These are the tracts which should forever remain under forest, as a basis for forest industries and a protection to the climate. Attempts at farming on lands of this description will always fail to give prosperity to the settler who is foolish enough to try. Even if for a season or two some sort of a crop is gathered from them, the fertility of the soil is rapidly exhausted, and the settler who goes on such land lured by its cheapness rarely has the means to use expensive fertilizers to continue the experiment.

Of this character are very large portions of the tracts from which the pine formerly growing there has been taken by the lumbermen's axe, and the question is: How can they be restocked with forests that in the course of time may again furnish valuable timber supplies. Not a few people still repeat the old theory that pine will not grow again on such lands. The notion is utterly unfounded, as careful observation has shown not only in Wisconsin, but also in Minnesota, Michigan and the province of Ontario. Undoubtedly there are large tracts where no second growth pine is springing up. But invariably the reason can be traced to fires destroying the seedlings and not rarely even the soil itself, or the proportion of vegetable mould in it. But on most tracts of this character the young pine is coming up vigorously between the poplars and birches which commonly first cover these places and in the beginning grow much faster than the pine, but after a while are caught up with by the latter. Strange to say there are many people, even lumbermen, who do not know a young white pine when they see it, and class all small pine trees indiscriminately as jack pine. The only thing necessary to give these tracts a chance to recover themselves with valuable pine forests is to subdue the fires. This is possible if proper police laws are enacted, and enforced under the supervision of state officials. Even more important than such laws, however, is the creation of a proper sentiment among the people of the forest region, so that the careless handling of fire in the woods is universally regarded as what it really is, a contemptible,

sneaky, dishonest crime. A man who recklessly burns up the forest property of his neighbor or of the state, is quite as bad as he who breaks into the home of another and steals his valuables. Yet practically every forest fire is the consequence of the negligence of somebody.

While the protection of growing forests against forest fires is the necessary first step towards all rational forestry in this state, more is needed. The state should begin as soon as possible to lay the foundation for a system of public forests, from which it may in the future draw considerable revenues, while at the same time putting the industries of the people on a stable foundation and guarding the climate of the state from deterioration. Some foreign governments derive from their public forests annual incomes ranging from \$0.90 to \$4.50 per acre, over and above all expenditures. Similar results are quite within the bounds of possibility for Wisconsin during the next fifty years, if the beginning is made soon. Nor will such a beginning require much outlay. A very small appropriation will suffice to start the work, and after a few years there is good reason to believe that the annual income would keep the work running.

Wednesday A. M.

President Kellogg in the chair.

President: First number of our program is "Reports of Delegates from Other Societies."

Mr. G. J. Kellogg to Iowa.

Mr. President, Ladies and Gentlemen: As delegate to the north-eastern agricultural society of Iowa, meeting at McGregor, November 29th, I respectfully report.

The opening session found 40 of the veterans of fruit culture in attendance. Our southwestern interests are so near identical I have made note of such things as I think will benefit us in our southern counties. The river bluffs, 300 feet high, are more favorable for fruit than the open prairies farther west which are not as good fruit locations as Wisconsin.

O. M. Lord and J. C. Hawkins were delegates from Minnesota. In Mr. Lord's paper on seedling apples the Peerless was

reported about as hardy as Wealthy and keeps about the same, it is of good quality and has a little look like Oldenburgh. On his low ground it bore a little the third year; on a neighbor's higher ground it bore well the third year. The seed producing the Peerless, Mr. Miller claims, was Utters or Duchess planted in 1868; the old tree, while split down, was bearing at last report.

J. C. Ferris says that Wolf Plum is better than DeSoto with him at Hampton. W. H. Guilford of Dubuque gave a valuable report of successful apple orchards on northern hillsides and recommended southern slopes for plum, grape and cherry; and for pear the rocky highest points. He also gave instances of using a heavy straw mulch under apple trees to shake the crop in place of hand picking. Mr. Hawkins gave an instance of a 3 acre orchard that paid more than the 160-acre farm in Minnesota.

Pres. Gardner stated that Red Elm and BlackAsh seed should be planted in the fall or soaked and frozen; he also recommended the tub with water, kerosene and lamp to trap the insects injurious to our fruits and vegetables. Plant horse-chestnut seed in fall but do not let stock eat too much of the seed as it sometimes kills.

Planting groves for timber was decided to be unprofitable except that every farm should have a few acres for shelter belts, ornament and kindling wood. Mr. Triggs, of Rockford, Iowa, gave an interesting address showing that latitude had little to do with success in orcharding; the northern limit of successful growth of any fruit, the greater its perfection, color and quality. The origin of the Rockford plum is Rockford, Iowa. Best 5 varieties of apples for N. E. Iowa, by vote of 19, are Duchess, Wealthy, Pat. Greening, Longfield and Tetofski.

G. A. Ivens of Iowa Falls sells his fruits from 20 acres on the ground to farmers and city people who pay as much or more for it and pick it themselves and no cost for boxes. Mr. Reeves does the same. Mr. Van Houten sold his crop of cherries on the trees. C. G. Patten in his paper on plums gave a tribute to Elisha Hale who introduced the DeSoto, 'which originated on the Trayer farm, hence the two names mean the same plum. He spoke in praise of the Surprise and Aitkin plums. Mr. Dennis of Cedar Rapids has 2,000 plum trees in orchard and 200 vari-

ties; he did not get down to a list, but would not go outside of *Prunus Americana*. Native stocks were considered best for plums; the richer the soil the better. The Japan plums had very few friends. *Communia*, Miner, Hammer and Chas. Downing of little value. The reports of Profs. Goff and Bailey on the plum were highly commended. Prof. H. E. Summers of Ames college had a paper on San Jose scale, but nothing new was brought out. Mrs. A. Chapin, of McGregor, read a very interesting paper on "Why Should We Cultivate Flowers?"

The evening services were in part conducted by the city schools; after which Hon. G. H. Van Houten, of Des Moines, secretary of the state society, and an all around the world tourist, held his audience spell bound while he portrayed the beauties and wonders of Hawaii; going to the mountain's top and down to the red-hot brink of the awful boiling cauldron of the lake of molten lava. He at another time gave a very interesting report among the oriental fruits of the east.

Mayor Walker gave his undivided attention in making the convention a success, giving us a ride up and down the city's canyons and valleys and a climb of 300 feet to their noted summer resort. The show of fruit, except Pat. Greening, Wolf River and a few other varieties was very poor. Patten's Brilliant, better than Fameuse, promises to be a winter apple. Your delegate put on their table Wolf River from 3 months cold storage that were pronounced better in quality than those kept in cellar.

Geo. J. Kellogg,
Janesville, Wis.

REPORT OF B. S. HOXIE.

Delegate to Northern Horticultural Society at Galva, Ill.,

December 14-15.

Mr. President and Members: As delegate to the Northern Illinois Horticultural Society I am pleased to make some report of the meeting held at Galva, Dec. 13-14. Leaving home Monday morning I stopped en route in the afternoon with J. L. Hartwell, the wide-awake, energetic president of that society at

his home in Dixon. This Northern Society of Illinois is thirty-two years old and I found some of the members present at this meeting who were in at its birth, and have ever since been its foster parents on the father's side, for I failed to see any evidence that it ever had any foster mothers; certainly none were in evidence at this meeting. Owing to the fact that immediately following their meetings and in the same hall, was to be held the county farmers' institute the attendance was rather light. Mr. L. Woodard of Marengo, now over seventy-two years old and who has held the office of treasurer from the date of the first organization thirty-two years ago, was as hopeful as ever for the horticulture of the northwest. President Hartwell had just returned from the Minnesota meeting and caught so much of the true spirit of progress which that society manifests that his address was as full of zeal as it was of reproaches for himself and the Northern Illinois society, because they were so lax of their opportunities; and made forcible allusion to quite a collection of seedling apples on the table from that state, together with specimens of Northwestern Greenings and McMahan from Wisconsin. He patronizingly remarked that they of Northern Illinois with much better advantages for growing apples than Wisconsin or Minnesota were far behind in the fact that they had produced no good seedling apples. This was afterwards corrected by saying that the Whitney No. 20 and one or two other varieties did originate in Northern Illinois. Your representative smiled when he thought of the apple crop of Richland, Sauk and Waupaca counties and the possibilities Sturgeon Bay and Door county with a straight cut market across the state to St. Paul and the Dakotas, or the all water route to Chicago with the best apples that ever grew.

The secretary's report showed that the vegetable crop was high in quality. Strawberry crop the best ever known. Cherries, gooseberries and currants never better and found good markets at fair prices. Raspberries and blackberries not so good a crop, by reason of too much dry weather at time of ripening. Apple crop a complete failure except in early varieties. Mr. A. J. Swezey of Rockford read a very interesting paper "Shall Farmers Grow Small Fruits?" One point brought out was that the farmer was most apt to go without these fruits unless he raised

them; another point was that the children should have a small patch to care for in their own way and name, and have the opportunity to sell what they raised for their own. Thus habits of industry were formed, besides a knowledge of business. Mr. Hartwell stated that improved varieties and improved methods made fruit cheaper and thus the market was helped both ways in bringing more customers to the fruit grower; he had raised 8,000 quarts of strawberries to the acre (Warfield).

The discussion on mulehng and its advantages was not very favorable, for the consensus of opinion was that cultivation was far more preferable. A. H. Gaston of Harvey sent in his paper on the planting of fruit and nut bearing trees on our public highways which was read by the secretary. His plea was highly colored with theory and great hopes, but as the essayist was not present to defend them against the attacks of the opposition, the members were reminded that tree planting by the road sides in Germany as was cited could not be carried out in practice in Illinois. The conditions of the two countries were at variance.

The Vegetable Garden, by Miller Purvis, associate editor of the Farmers' Voice, Chicago, showed that city editors did not do all of their garden work on the inclined cover of their desk or the table top with a blue pencil and sharp scissors. He not only cultivates a large garden but knows as well how to tell others to do it. As we live in an age when the million hosts of bacteria live and thrive in such unheard-of ways that would have frightened our forefathers into untimely graves, Dr. A. S. Humphrey of Galesburg gave us an able paper which not only quieted the nerves of the older horticulturists but afforded valuable information to the scientific explorer in his search for fungous diseases and how to combat them.

W. H. Parkin of Galva, a man who raises flowers more for the love of flowers, than for the money he gets out of them, read a fine paper partly from manuscript and partly, as he said, from his head in which, or from which he made it appear that more flowers should be cultivated. In remedies for the aphid or plant lice he had found tobacco smoke the most effectual remedy, but as an insecticide for all varieties of plants, nothing was better than ivory soap, a five cent bar to five gallons of water. Thor-

oughly wash the plants, then rinse them off with clear water. Strong force with syringe or other method must be used to kill the meely bug.

The delegate from Minnesota, Mr. McIntosh, a student in the agricultural department of their college, was very enthusiastic in his praise of the work in that department and stated that there were now nearly four hundred students in that course.

In memory of Mr. Whitney, the originator of the famous No. 20 crab, the number 20 is supposed to be from seeds of Russian apples and among many trees which bore fruit this was selected as the best. Mr. Whitney was one of the early nurserymen of Illinois and always planting trees. Perhaps some of you noticed a lumber wagon in the Illinois building at the World's Fair which was made entire from wood grown on Mr. Whitney's place, the trees of which were planted by his own hand. Over the door of his residence in gilt letters are the words "Whitney No. 20."

James T. Johnson of Warsaw, a man now over seventy years old, send an excellent paper on the future outlook for the apple. I had before met Mr. Johnson and I always found him an enthusiast for the apple, and in proof of his hopefulness he planted a new orchard last spring of several hundred trees. In his experience he had seen failures in the apple crop and so he had in other crops but that was no excuse why a man should not sow grain or plant corn. He had sold apples from his orchard for prices many times more than the value of the land.

From the fact of a light crop of apples for the past season there were only a very few on exhibition. The society financially is in a healthy condition, but the work seems to be carried on mainly by a few of the older members. I noticed with regret the entire absence of ladies' names on the program. Perhaps if the ladies were invited to take part in the exercises, more of the young members could be induced to take up the work which the fathers are soon to lay down.

REPORT OF A. D. BARNES, DELEGATE TO MINNESOTA WINTER MEETING, DECEMBER, 1898.

Found a fine attendance and a fine display of apples and grapes in an adjacent room to the meeting place of something over 300 plates, many of the early varieties, of course, having been kept in cold storage. Was surprised and delighted to see this splendid collection of fine fruit, and think such a collection would be a credit to any of the older states. This collection of fruit must have convinced the most skeptical person that Minnesota is indeed a fruit state and that the wide awake citizens are pushing their interests and are bound to be recognized as one of the leading fruit growing states of the union. The grapes would do credit to even Chautauqua Co., N. Y.

We here had the pleasure of meeting Peter M. Gideon (whom this convention welcomed by arising to their feet on his entrance), the father of Peter, Wealthy, Gideon's Best, and thousands of other apple trees. This grand old man, in my opinion, has benefited the Northwest more than any other horticulturist to me known. Honorable E. H. S. Dartt, of the Owatonna experimental orchard, with his girdled trees and faith in them as strong as adamant, Edson Gaylord of Iowa, J. S. Harris, with his eagle eyes and calipers sizing up the apples, Prof. N. E. Hansen of Brookings, South Dakota, who gave a very interesting discourse on what he saw and learned of horticulture in his travels through the old worlds of Europe, Asia, Africa, Japan, etc., his adventures, trials and final victory in securing a grand collection of seeds, plants, cions and trees, including a collection of 265 varieties of melon seeds; Prof. Otto Luger, with his bugological charts, and a grand lecture. Mrs. Van Cleve, a lady over 87 years of age, wrote and read a beautiful paper on success with flowers. I also saw scores of other earnest and hard workers, notably amongst them being Miss E. V. White, the president, and Miss Lucia E. Danforth, as secretary of the Woman's Auxiliary Society, which held its first annual meeting in connection with this meeting. The object of this society is to work in connection with the State Horticultural Society, to

encourage the beautifying of homes and home surroundings, ornamentation of and care of home grounds, gardens and roadsides, encourage the planting of shade and ornamental trees by the way side, in school and church yards, parks, and so forth, and to aid the historical society to preserve ancient land marks, old trees, hills, bluffs, rocks, streams, etc.; to encourage the removing of unsightly objects from back yards, fields and premises, and to work among the children and encourage them to become interested in horticulture, floriculture and the arts. May God speed the mission of this society, and your humble representative hereby recommends and requests that this state grant a charter to our women that they too may follow this grand example and become active adjuncts to our society at our annual summer meeting to be held in June next.

Another grand feature of this meeting that, in my opinion, would be wise for Wisconsin to adopt was the great interest that Minnesota takes in originating and perpetuating valuable seedling apples, they having offered a reward of \$1,000 in cash to any one who will originate or introduce a new seedling apple tree that is as hardy as the Duchess, as productive and good as the Wealthy and keeps as long as the Malinda, and I think in justice to their generous offer, as it extends to Wisconsin as well as Minnesota, that we too ought to duplicate this offer.

Note the wonderful achievements we have already reached in this line and see the encouragement this would guarantee.

Minnesota pays her president a salary of \$25, secretary \$800, and the treasurer \$25 annually. They have a membership of some 800, and reported a death loss of only three during the past year. This alone ought to encourage every one to become good, active horticulturists.

The meeting closed on the fourth evening after a program arranged and conducted by Prof. S. B. Greene, horticulturist, aided by the agricultural students. Notable amongst them were brilliant young lady students who wrote and read very practical and interesting papers on small fruit culture and gardening.

Thanking this state for the honor bestowed as delegate, I desire further to recommend that we invite and encourage the

co-operation and assimilation of the Minnesota Horticultural and Woman's Auxiliary Societies to and in all our deliberations and experiments.

REPORT OF WEYAUWEGA TRIAL ORCHARD.

By Fred. A. Hardin.

Weyauwega, Wis., Feb. 6th, 1899.

Wisconsin State Horticultural Society: I submit to you my annual report of the trial orchard at Weyauwega, Wis., giving only a short description of fruit worthy of mention that this orchard produced the past season.

Apples.

Baraboo—A good productive early summer variety and a healthy tree.

Crocker—Late fall or early winter variety.

Duchess—A good productive tree.

Duchess No 2—A Duchess seedling, good early fall market apple.

Duchess Nos. 4 and 6—From C. G. Patten, are productive and good fall market apples.

Fameuse—Top worked on Whitney No. 20 fruited for the first time, apples were all smooth and of good size.

Forest—One of the best winter varieties, a good productive tree.

Glass Green—Will sell for Duchess in any market, with us it seems to be a little larger and later than the Duchess.

Gold Drop—Some call it the Greasy Pippin, a yellow early fall apple of good size, the skin greasy or oily, ought to make a good market apple.

Hoadly—A good fall apple of Duchess type.

Jenney—A fall variety but very small and scabby.

Johnson Seedling—Looks very much like the Forest but smaller, season winter.

Longfield—A very productive fall apple.

May—A medium sized winter apple.

McMahan—Productive, good sized fall apple.

Morris—Resembles the Fameuse, about the same size but very productive.

Newell's Winter—One of the very best winter-keeping varieties.

Nobles Winter—Another name for Haas.

N. W. Greenings—Large winter apples, splendid keepers, trees very good and productive.

Okebena—Of the Duchess type, a fall or early winter variety.

Palmer—Is a small winter apple.

Patten's Greening—Is a very productive fall variety; and resembles the N. W. Greening in size and color.

Raspberry—A small red productive variety.

Scott's Winter—A very good medium sized winter apple.

Transparent—One of the earliest summer varieties, very productive, trees do not blight as much as usual.

Walrath Pip.—Medium sized summer variety, good quality and productive.

Wealthy—Trees were loaded, very heavy.

Whitney No. 20—A few very large crabs.

Windsor Chief—One of the best winter apples, for market or home use.

Wolf River—The largest red and productive apple we have.

Plums.

Mariana—Tree makes a good growth—but bears no fruit.

Wild Goose—Plums of fair quality, but not very productive.

In conclusion I will give the names of apples that I would recommend as the best five varieties each of summer, fall and winter, quality and productiveness considered.

Summer varieties—Baraboo, Duchess, Transparent, Walrath Pip. and Glass Green.

Fall varieties—Duchess No. 20, Wealthy, Hoadly, Longfield, and McMahan.

Winter varieties—N. W. Greening, Forest, Newell's Winter, Scott's Winter and Windsor.

Mr. Philips—I think it would be a good plan to take up Mr. Coe's talk.

President—We will now take up Mr. Coe's talk on "Interest in Horticulture in Institutes in '98 and '99."

Mr. Coe—Mr. Chairman, Ladies and Gentlemen: It does not seem to me that it is necessary to say much on this subject. There is a great interest taken at the institutes this year in horticulture. It seems that the interest is growing in this particular work as the years go by. I find also that there is a change in sentiment. Other years people have desired to hear much about small fruits. This year, I suppose the apple crop had much to do with it, but there is a great deal of interest in the larger fruits, particularly in apples. There is more interest shown in the northern part of the state than in the southern. They are planting apples more largely. I call to my mind just now an instance at Peshtigo. One gentleman came to the institute there saying that he had just finished marketing 2,000 bushels of Wealthy. He was feeling very happy because he got \$4.00 per barrel for them. Of course this was the last half of the crop. The first half he sold at smaller prices. He sold about 1,000 bushels at \$4.00 per barrel and said that the market would take all he could raise. The Wealthy seems to do better the further north we get.

They seem to hang on the trees longer and keep longer, in the northern part of the state. Now, Mr. Chairman, I do not think I need to say more. If anyone wishes to know more I will be glad to answer questions. The interest in the institutes is good and growing.

Mr. Edwards—How did he keep his apples?

Mr. Coe—In the first place the apples do not ripen as they do in this part of the state. He handles them carefully of course. He packs and stores them in berry cases entirely, placing them in his cellar clear to the wall. Each case has a certain amount of ventilation. He had some N. W. Greenings there at the institute and he made this statement. He said that the Wealthy would keep better than the N. W. Greening. He said he had not had much experience with the N. W. Greening, but his experience was that by handling, if the N. W. Greening became

bruised it would rot, while the Wealthy would dry where it was bruised.

Question—Did he put papers around the apples?

Mr. Coe—No. Just put them in loose, but handles them carefully. There were no wind-falls among them. He cultivates his orchard, about the 1st of July, he sows peas in the orchard. This keeps the ground covered and adds nitrogen to the soil. If the apples do drop, this prevents their bruising.

Dr. Loope—How large was his orchard?

Mr. Coe—Eighteen acres. Largest trees in the orchard were nine years old.

Mr. Kellogg—What soil?

Mr. Coe—A sandy surface soil, some clay, not much.

Mr. Kellogg—What was the timber?

Mr. Coe—Well, it was in the pine regions. It has been burned over, and the second growth is mostly poplars.

Mr. Philips—Was there hemlock?

Mr. Coe—Not very much hemlock. It is a low, flat country; part of it was covered with cedar swamps.

Mr. Reed—Is this orchard on low ground?

Mr. Coe—It is on what was originally pine land.

Question—How far from water?

Mr. Coe—Not far from the lake, you know.

Mr. Kellogg—What other varieties besides the two you mentioned were a success with him?

Mr. Coe—The old orchard was mostly Wealthy; new ones planted are Fameuse and McIntosh.

Mrs. Johnson—Does the Wealthy drop?

Mr. Coe—They have very little trouble.

Mrs. Johnson—In some of the Sauk county orchards it drops badly.

Mr. Coe—Yes, in all the southern parts of the state it does.

President pro tem. Johnson—The subject as put down here is Interest in Horticulture at Institutes. There is still another way of looking at this thing. We know that these institutes are doing much work in horticulture. I suppose you have all noticed that we have been called upon to hold as many horticultural conventions as we were before. They used to call on us

from different parts of the state to hold conventions. Is there any particular use in a horticultural society? Shall we disband? And give this work to the horticultural institutes?

Mr. Edwards—I do not think that we appreciate what the farmers' institutes have done. I have been with them more or less, and as much attention is paid to the fruit subjects at those meetings as anything else brought up. They are doing more good for horticulture in this state than any one thing. They bring the fruit question and horticulture right before the farmer. I would say that I think the Racine Agriculturist is worthy of praise for putting in Wisconsin experience, as it goes to 15,000 people every week. I do not think we want to put the subject to fruit second to anything in this state.

Mr. Philips—I am particularly interested at this time in this subject. There has never been a time when there were such general inquiries as this winter. No, I do not think, in regard to Mr. Johnson's question, I do not think we want to disband. We want to work in more young men. We want to educate men into this line of horticulture so we can furnish the workers to go out to these farm institutes,—this is the school to educate the people. There is not one branch of industry in the state where people have been so swindled as in this line. They have been sold eastern varieties, and have paid a large price for them. Now the model orchard agents are doing this. Now this coming spring people are very anxious to plant trees, and these agents from the east will come in and make a harvest. In Iowa they are going to try to pass a law prohibiting outsiders from coming in. They will be required to give a bond. Now unless we do something, it will make Wisconsin the dumping ground of a lot of this poor stuff. Mr. Barnes has as perfect a system of double rooted trees as I ever saw, and while he grew his own trees, and sold to his neighbors, he sold them good trees, but of late years as business increases, he has been buying from the south, buying cheaper, and he has been spoiling his trade. I think we ought to advise our people to set our own Wisconsin trees. It is better for the nurserymen and planters. We had better adopt this plan, and let us grow the best varieties suitable for our state. Let us furnish these trees at a good price.

Put a fair price on the trees. And let us furnish these trees, and when a man writes for a certain tree, and we are out of them, let us say that we cannot furnish them until next season. One word in regard to the Wealthy. It bears itself to death, in a location as that spoken of by Mr. Coe.

Question—Do they keep well?

Mr. Philips—If you have a large family, and only a few apples, they will not keep. (Laughter.)

Mr. Kellogg—When Mr. Coe was speaking I wanted to ask this question. Are you trying to induce membership to our state society, and introduce our magazine at these institutes. I tried it at Durand and Augusta and I want to know if the other workers are doing this.

Mr. Coe—When I come to announce that I have a few copies of the Horticulturist, published by the society and for Wisconsin people, there is a grand rush. Then I say that it would be a good thing for them to subscribe for it. I think we ought to have 100 copies at each institute. I want to say that we do not want to disband as a horticultural society. The institutes must have a head center, or fail. The greater the knowledge is disseminated, the greater the need of the state society.

President—True.

President—Mr. Philips made a good point, when he said that we need intelligent workers to help those institute folks. They call on the horticultural society for workers. We feel that this state horticultural society is very essential to the working of the farm institutes. He made another point and that is what we contend with is the ignorance of the people throughout the state. Now Sauk county has a reputation for raising apples. A great many of you think it is due to the locality but it is simply because the people are so well informed on the question.

Mr. Tuttle called for.

Mr. Tuttle—A man, about 1846, set an orchard near Baraboo, for commercial purposes, and found that he made the best test ever made in Wisconsin. I set my orchard a year or two after, about 200 or 300 trees. I used to take lessons of him. I never found a man better posted than Judge Clark. When I set my orchard I consulted him.

President—Mr. Tuttle paid a high tribute to Judge Clark, but I think the best work he did, was not in testing but in teaching such men as Mr. Tuttle.

Mr. Hoxie—Some 8 or 9 years ago, in my annual report as secretary, I had this to say. "There is nothing that will have a tendency of throwing a wet sheet on a farm institute meeting, as the subject of horticulture." If we tried to distribute our books, they would be left on the chairs. To-day it is entirely changed, and I have noticed at the institutes I have attended, there is an eagerness to hear something on horticulture, and they are glad to have our books. The reason why they do not raise fruit in some localities, is because they do not know how to raise it, or what to raise. This matter of education is very important. Some more than 30 years ago I had occasion to go to Delavan on business, and I noticed among the farmers, some of which were well to-do, a tendency to beautify their yards with evergreens and shrubbery. I soon found the cause of it. There was a nursery in that neighborhood. I simply wish to make the point that we need to give this knowledge of horticulture at the institutes.

Gentleman from Iowa, Mr. Guilford—Every horticultural society that I have ever had the honor to belong to, have exhausted all their ingenuity to get their reports properly laid before the people, in order to scatter knowledge. I believe it is to your interest to place this information before the men, who ought to plant the trees. If he does not wish to sell apples, he ought to have them for his family, his children. Most of these horticultural societies are a mutual admiration association. There is another class that attend and they are just bearing a little on your grind-stone. These latter have a horticultural sore thumb. They do not want to disseminate this horticultural information. But you want to give out all this useful information, and you cannot convince the farmer that it is to his interest to plant and grow apples, unless you can show him the shadow of the dollar ahead. He wants to see the prospect of a little money. He had been imposed upon so much but he is really a doubting Thomas. Go before the institutes, and bring your information before the family circles. I teach it in the Sunday

schools and the honest nurseryman will not suffer by the people being intelligent.

Mrs. Campbell—I noticed that a laugh went around when this gentleman from Iowa said that he taught horticulture in the Sunday schools. You cannot do it in any better way than to teach it to the children. It is better to teach them that, than the fear of God. And I hope that the next time any good brother rises and says this, no one will laugh.

President—I think it was intended as a smile of encouragement.

Mr. Coe—I think that the more local societies we have, the more we will disseminate horticultural knowledge, and the better it is for the people of our state.

Gentleman from Illinois—Prof. Hartwell once said that horticultural societies were not for the specialist but for the farmer, and he asks the farmers to come.

Mr. Reed—Mr. Coe says that it is desirable to have local societies, now if it so desirable, why do we not have more of them?

President—Before closing this discussion I wish to say a word. I believe there is great need for local horticultural societies. I fully understand that the only ground on which the legislature would give us an appropriation and aid, is taking it for granted that we are of benefit to the whole state.

President—Next topic upon our program, "Orcharding in the Northwest," by J. M. Underwood of Lake City, Minn.

Mr. Underwood—I have endeavored to treat this subject in a manner that would be easily understood by non-professional horticulturists. I hope that you are not so professional that you will not appreciate the main thought that I wish to emphasize.

ORCHARDING IN THE NORTHWEST.

J. M. Underwood of Lake City, Minn.

In considering this subject, we are confronted with the prevailing opinion that fruit raising cannot be made a success on account of the severe cold weather.

Less enthusiastic or persistent people than the pioneers in our horticulture would have taken this for granted and would have ceased their efforts long ago. It is fortunate for the development of our country that they did not, and, in reality, they could not, for the keen dry bracing atmosphere that was supposed to kill apple trees, acted as a stimulant to them and increased their determination to overcome all obstacles to their ambition. No matter how severe their losses have been, they have persistently persevered until success has crowned their efforts.

The school of experience is oftentimes tedious and expensive, but the lessons therein learned always prove of great value, and from the lessons I have learned I will endeavor to give such instruction for the planting and care of an orchard, as is prompted by my thirty years' experience in the beautiful valley of Lake Pepin.

In the first place let me correct the statement, that fruit cannot be grown on account of cold weather. The primary cause of any and every failure is drouth. If it was due to cold weather, we would hardly know how to overcome the difficulty, for protection could not easily be furnished to our trees; but with drouth for a foe, the weapons are at hand with which to conquer. Although we may occasionally get a black eye, we feel secure in our position, and can smile serenely as we renew the conflict, knowing that victory will be ours.

In support of this position, let me cite you some facts that may be easily proven: we are living directly west of New York where they raise apples, pears and cherries in abundance, but they live near enough to the Great Lakes and to the Atlantic Ocean to receive moisture through the atmosphere directly from them. Also they are far enough away from our great western deserts to escape the drying and almost continuous winds. Again—here in

the north wherever there are rivers and lakes, there also may be found trees; while away from them, there is no natural growth of trees, except on the northern side of hills and bluffs where the sun and wind do not dry out the soil. There are many things that go to prove that the injury to apple trees is due to drouth and not to cold weather. Long experience and careful study have helped to verify this statement. If the trees are black-hearted, it is caused by drouth, or a loss of sap in the bodies and limbs; brought about by protracted and severe dry, cold weather, but the cold is only responsible for the injury in the same way that the hot, dry weather of summer will also cause a drouth and kill vegetation through a lack of moisture. If the roots are black and dead, the cause is drouth, or a lack of moisture in the soil. In either case the cellular structure has been violently ruptured and circulation suspended: consequently, healthy action cannot take place again. Precisely the same conditions prevail when the tops of soft maples, poplars, red oaks or evergreens die down. Any tree or shrub whose roots lie near the surface is easily affected by drouth and they cannot be long lived unless great care is used to supply them with the needed moisture. As an illustration of this, I will cite you the condition of the trees around this capitol building. The ground is high and sloping so that the rain that falls will run off quickly. In addition to this—the trees are planted high and a mound of earth around them and the ground is all in a heavy sod so that it might rain a week and not wet the roots of the trees a particle.

With this knowledge and experience, the subject can be taken up for consideration with a degree of confident assurance, that was not possible thirty years ago.

Location.

Great care should be used in the selection of a suitable location both as to the nature of the soil and its exposure. If the soil is sand or gravel and easily affected by drouth, we cannot expect as favorable results as we could if it was clay or some other retentive soil. If the exposure is to the south, or on a level where the sun and wind have full sway, success would not be as sure as though on a northern exposure, which gives protection from sun and wind. It may be necessary to plant upon poor soil, and

in an unfavorable location, and so I will give such directions as are suggested by long experience under just such conditions, and if we have been able to raise fruit with considerable success, others may have the advantage of profiting by our experience.

What varieties to plant.

Make a careful selection of varieties that grow strong, vigorous tops, that will appropriate plenty of oxygen from the air for elaborating the sap and imparting vigor to the tree. The roots in return strike deep into the soil, and with corresponding vigor, furnish food and moisture for the top.

Distance to plant.

Twenty feet apart each way is about right. It is not practical to plant with a view to thinning out as the trees increase in size. It is better to have them at the same distance apart each way for convenience in cultivating, as that is to be the chief factor employed in combatting drouth. A few trees in the garden may be planted nearer, but to attain the best results in planting an orchard, they must be at least twenty feet apart. The rows should be straight, and to make them so, set a row of stakes on the four sides and then fill in by sighting, instead of measuring, as the inequalities of the surface are likely to make crooked rows.

Planting

The trees should be in good condition; they should not be dry or shriveled, but plump and full of sap. They ought not to be allowed to freeze after digging, for the circulation of the sap in the roots is then destroyed, and the roots turn brown and worthless. Without good roots a tree cannot thrive.

The ground should slope as much as possible toward the tree in such a manner as to catch and retain any rain that falls, instead of allowing it to run off where it is not needed.

Before planting, cut back the limbs about one-half, and also the ends of bruised and broken roots. Mud the roots in thick mud. Do not pour water into the hole. If the soil is light or a loam, set the tree six inches deeper than it stood in the nursery. Cover the roots with the top soil, and then tramp very hard. Put

in more dirt, and then tramp as though setting a fence post; this will firm the soil and cause the roots to send out new rootlets at once. Leave the top soil loose to receive and preserve moisture.

Protection.

Plant a shelter belt around the orchard. Evergreens are the very best trees for this purpose. They should be set out in two rows or more, twenty feet apart, and the same distance apart in the rows, putting the trees in each row opposite the space in the adjoining row.

The object is to stop the wind, and to prevent as much as possible, its drying out the soil in summer. The shelter belt also holds the snow on the ground during the winter.

Willows or other deciduous trees can be used, but they do not make so good a protection in winter as the evergreens, and it would be necessary to plant several more rows.

This shelter belt should be kept carefully cultivated, and in the best condition possible.

Protection from the sun.

The bodies of the trees should be protected from the sun's rays during the winter. Burlap is the best material and easily applied. To do this: cut it into strips, six inches wide and long enough to wrap a tree. Make these strips into rolls, and then, commencing close to the ground, wrap around the body and well up into the forks of the tree. Fasten the upper end by tying a string around it. In wrapping, let one edge of the burlap lap over the other. The straw or burlap can be left on and it will last two or three years. It costs but a fraction of a cent for a tree. Besides being protection from the sun it also makes a protection from the rabbits.

Care of the trees.

For the first few years, the ground between the rows can be planted to corn or potatoes; but not nearer to the trees than five feet. The ground must be kept absolutely clean, and next to the trees, the ground should be kept clean and loose on the

surface, so as not to let any moisture escape by evaporation. Always after a rain it should be stirred, and the surface made loose and in good condition to withstand a drouth.

Implements.

Any good cultivator can be used, but shallow plowing is the best treatment the ground can have. It is the surest way to destroy weeds, and it leaves the ground loose on top. As the trees get older, a sharp drag or wide cultivator, that will reach the width between the trees, are good implements to use. In the fall, if any weeds have been allowed to grow near the trees, they must be removed, and a little dirt put around to keep the mice away. In addition to this precaution, the mice and rabbits should be poisoned.

Pruning.

It is best not to allow the limbs to grow lower than three feet from the ground; but only trim up enough to let a team pass between the trees when full grown, with a low down cultivator.

There is also an advantage in having the fruit borne near the ground where it is easier to pick, and the wind is not so severe upon the tree if it is kept headed low. The best time to prune is in the latter part of June or in July. Prune a little when needed every year, so as to avoid having to cut large limbs. Do not allow crotches to form, as they are likely to split down in severe winds. Remove all small, superfluous limbs that appear in the middle of the tree, also those that cross each other, so as to cause injury by rubbing, etc. Be careful not to trim too much. As a rule, when one goes into the orchard to trim, it is best to keep the knife in the pocket.

Fruiting.

Finally, when the trees get large and come into bearing, they will need more moisture, and where irrigation is not possible, the desired result may be attained by frequent cultivation. The ground must be kept as clean as a floor from all vegetation. The soil on the surface will then catch and pass the rainfall down to the sub-soil, when the surface must again be made loose and fine to retain the moisture.

This method is equally applicable to all kinds of soil, and is

absolutely essential to poor soils and poor locations. Of course, the better the soil and the location, the more can be accomplished.

Always keep in mind that the most essential requisite is moisture, and that without irrigation, the best way to secure moisture, is to retain all the rain that falls, by frequent cultivation, and by checking the drying winds with shelter-belts.

Wednesday P. M.

President Kellogg in the chair.

President—We will now take up the discussion of the paper by Mr. Underwood. We will place Mr. Underwood upon the witness stand, and you can all fire questions at him.

Mr. Philips—They seem a little afraid to start, and as I am pretty well acquainted with Mr. Underwood, I will say that I do not exactly agree with him as to the matter of planting trees. I have found out one mistake, I used to mud the roots of my trees thoroughly, as he advised you to do, and they did not grow well. Some time after that I met an Englishman, and I talked to him about planting trees, and told him about mudding my trees. He said: "That is a bad thing to do. Better wash your roots clean, and even if you scrape them it will do no harm. Mr. Tuttle sent me some trees; the boys said they would not grow as they were too large. Well, I washed the roots well, and planted them and they did grow. I now know why some of my trees did not grow, the mud would dry on the root, and the dry dirt kept the water away from the roots.

Mr. Underwood—In answer to the thought with regard to puddling trees. In the first place, I did not suggest that you mud the roots and let the trees lay around until the mud is dry. I said the trees must have moisture, I did not say they must be dried up, and if you will take trees that have fresh roots, and mud them, and keep them moist, they will grow. Of course, I have no objection to washing the roots. I make a good thick mud, and after the tree is mudded, I could let it lay in the sun and wind quite a little while, and it would not dry out. I then plant the tree very firm.

Mr. Hatch—Now suppose, Mr. Underwood, that a man follows up the instructions that you gave this forenoon and fails. What would you conclude?

Mr. Underwood—I cannot conceive of such a condition.

Mr. Hatch—About the best time to prune. I never pruned with success in June, as you suggest. (Mr. Hatch here reads directions for planting trees.)

Mr. Hoxie—I supposed that Mr. Underwood was on the witness stand. I would prefer to have questions asked him.

Mr. Edwards—You say you have cultivated any time until the first of August. We have been told not to have a late growth, as it is apt to winter-kill.

Mr. Underwood—I hesitated in writing my article, to take that extreme position, but I thought I must do it. I knew it would provoke discussion, if you had discussion. I should stop cultivation in July, and it has been said here that we should cease cultivation in August. When I ceased cultivating in July and August I failed. There are no rules though, without exception. If the season is wet, and there is plenty of moisture in the soil, and the trees are making good growth, I would not cultivate. If it is a dry season I would keep the ground loose on the top, in order to preserve the moisture. We plowed two orchards this last summer, there were 2,000 trees in each of them, and we kept the ground loose on the top all the while. As soon as the ground was dried off a little, I stirred the top, and any time during the number of dry weeks we had, you could go there, and with the toe of your boot you could take away the dry upper surface soil, and the ground underneath would be damp. Do not let your trees suffer for want of moisture. Keep the surface soil loose, and the ground will hold all the moisture that falls. That is what he means in Washington by a dust blanket. Now, our friend Chappel has a good idea, he puts sand or dust around his trees. It will keep the moisture from coming up.

Mr. Hatch—How would it be about root killing?

Mr. Underwood—If you do not cultivate the ground, the moisture will go out, and the trees will root kill.

Mr. Hatch—I know of a case where the trees that were cultivated, root killed, and those that were not cultivated, did not root kill.

Mr. Kellogg—Do you apply this cultivation to the nursery as well as the orchard?

Mr. Underwood—Yes sir. I have not had any root killing since '93. The peculiarities of '93 were circumstances that differed from anything I had ever had before. If I had cultivated, I would have saved my trees. I lost 15 acres, which I think I could have saved.

Mr. Plumb—I simply wish to answer a question which Mr. Hatch asked, in regard to root killing where there was no cultivation. The root killing is chiefly after the warm days of February and March. When the ground has been frozen up dry, there is a period of from 7 to 10 days, when it is alternately thawing and freezing, but after the spring rains there is no killing. If you have weeds or a mulch to prevent this alternate freezing and thawing, you will prevent the root killing.

President—Are there any other questions?

Mr. Stickney—We are told by good authority that it is well to keep our orchard covered with a little green crops. I would like to ask Mr. Underwood's idea as to the growing of rye or barley to make a covering for the winter.

Mr. Underwood—I never practised that. I understood that there is a variety of clover used for that purpose. In the winter time we throw our manure out from the barns, in the spring of the year we put some around each tree. It helps to fertilize the ground, and seems furnished a little protection to the young trees especially. I think cultivation is better than the growing of a crop to preserve the moisture.

Mr. Kellogg—In regard to the wind-breaks, you speak of three kind, willow, ash and evergreen.

Mr. Underwood—I was speaking of putting a wind-break around the homes on the prairie. The wind is so severe and continuous. Willows are frequently planted to protect the evergreens. As regards the distance of planting this screen, you must not plant your evergreens so near an orchard that they will take the nourishment from the apple trees. Perhaps they ought not to be nearer than 3 or 4 rods. Still I have seen trees 16 and 18 feet from evergreens, and they were doing well. Prof. Gregg, who is at the head of our institutes, has a Coteau

farm which is under the management of the Board of Regents of the State University. It is on the open prairie. He has made a success of growing ever-greens there by planting willows to protect them. On this farm Prof. Gregg can grow strawberries with perfect success, and it is quite unique the way he does it. He plants the strawberries 8 feet apart, and then he piles straw between the rows, so thick that there is a perfect mulch. There is nothing but straw and strawberry vines. In the winter he spreads the straw over the strawberries and in the spring he takes it away. It is on the same plan of keeping the moisture there and is a protection.

Mr. Hoxie—How can he keep the wind from blowing the straw away?

Mr. Underwood—He has these willow hedges and the ever-greens.

President—We will now take up the next topic upon our program, "A Plea For Quality in Fruits," by Prof. E. S. Goff, of Madison.

Prof. Goff—I chose this subject because it is really an important one, and while I suppose some of you will think otherwise, it is time we do something in this direction.

Reads paper.

A PLEA FOR QUALITY IN FRUITS.

By E. S. Goff, Professor of Horticulture in the University of Wisconsin.

The opinion is quite prevalent among fruit growers that the consumers of fruit are generally indifferent as to the quality of the article they purchase, so long as the external appearance is satisfactory, and from this opinion the conclusion naturally follows that quality is hardly worthy of consideration in selecting varieties for planting. This proposition has a bearing upon two conditions that directly affect the fruit growers' interests, viz., the consumption of fruit, and the selection of varieties for planting. If the proposition is true, it must follow that the consumption of fruit is not at all dependent upon its edible quality, but wholly upon its appearance; and that the fruit grower has no

inducement whatever to plant varieties of good quality for market. If the proposition is false, on the other hand, then the prevalent faith in its truth must certainly be working great harm to the fruit growers' interests, for he is governing his conduct by false premises, which is always dangerous, and must surely work disaster in the long run. I have, therefore, taken it upon myself to analyze this proposition with the hope of finding out to what extent it is true or false.

If it is true that the edible quality of fruit is of no importance to the purchaser as compared with its external appearance, then it logically follows that fruit is commonly purchased primarily for purposes of embellishment, rather than for food. Can such a proposition stand for a moment? It is doubtless true that choice fruit is sometimes selected with the embellishment idea in view, but such cases are certainly exceptional.

If fruit is not commonly purchased for its edible qualities, how can we explain the amazingly large consumption of the strawberry, for instance, as compared with that of other fruits of equal beauty? I very much doubt that, in the artist's judgment, the strawberry would be rated a more beautiful fruit than the Hyslop crab or the red currant, yet we all know that the consumption of the strawberry surpasses that of the latter fruits many fold. Why is the Rhode Island Greening apple so popular in the New York and Boston markets if not for its quality? I have never heard it called a beautiful apple. How can we explain the great popularity of the Seckel pear, except for its rare quality? Why are the Delaware grape and the Green Gage plum so popular in the market? If the proposition under consideration is true, it must follow that the Rhode Island Greening apple, the Seckel pear, the Delaware grape and the Green Gage plum are exceptionally beautiful varieties, which we all know is not the case. Examples might be multiplied if it were necessary, but I think it is not, for this audience is too intelligent to believe for a moment that fruit is commonly purchased for any other purpose than for its pleasing and refreshing edible qualities.

We often incline to reproach our city friends for not using better judgment in the purchase of fruit, but in this we are un-

charitable, for they use the same kind of judgment that we use in buying articles with which we are not familiar. When you buy bananas, for instance, do you not commonly select those that are largest and that look the soundest and the ripest, unless you are hunting for cheap ones? Do you ever ask for any particular variety of banana, and if you did would you be sure of getting it? When you have found a sample that looks all right, do you spend much time investigating the poorer-looking samples? We have no right to demand better judgment of others than we use for ourselves. We should remember that the consumers of our fruits have not had the same opportunities to inform themselves upon their comparative merits that we have had; that fruits are commonly purchased in more or less of a hurry and often by irresponsible subordinates, and that they are many times unseen by the mistress of the house until they appear on the table. The purchaser cannot be supposed to know the varieties of all sorts of fruits in the market, and if by chance the names of a few varieties are known, they are likely to be such varieties as Ben Davis, that have become famous, not because of their good qualities, but because growers, in their avarice, have crowded them into the market to the exclusion of better kinds. Indeed, this explains the demand for this class of varieties. There is a trait in our human nature that prompts us to choose something that we have heard of, rather than something that we have not. A poor thing well known sells better than a better thing less known. And who is responsible for the questionable fame of the Ben Davis apple, if not the growers? There are two classes of varieties that are well known in market: first, those that are most common, as the Duchess and Ben Davis apples; and, second, those that are exceptionally high in quality, as the Fameuse and Jonathan. The latter fact proves in itself that buyers are not appreciative of quality.

We may conclude then that the tendency so manifest in the purchasers of fruit to select the best-looking samples and the best-known varieties is both natural and pardonable, and that it is to continue in spite of our remonstrances, and that the growers themselves are largely responsible for the demand that exists for certain inferior varieties. Let us next consider the re-

flex influence upon the fruit grower of sending inferior varieties to market, and here I cannot do better than to relate a personal reminiscence.

Some three or four years ago, Mrs. Goff purchased a few exceptionally beautiful California peaches for a dessert. They were mammoth in size, of a beautiful golden color, and wore a blush that would rival sweet sixteen herself. Perhaps our expectations were unduly exalted by the lovely exterior, but on tasting them we found them so tough, flavorless and adherent to the stone, that we laid them aside in disgust, and they were consigned to the swill pail. Since then I have often seen peaches in market that looked just like those, but I never think of buying them. They may be sometimes as good as they look, but I shall never discover it, for I am like Benjamin Franklin in not caring to be cheated the second time. This incident has certainly reduced the sale of that particular grade of peaches in Madison. I doubt if other people enjoy being fooled in this way much more than I do. When we are unpleasantly deceived by a fruit once, we buy it less willingly next time, and the loss comes back upon the grower. If all the bananas in market were equal in flavor and aroma to the finest we ever tasted, would not the demand for bananas be much larger than it is? If all the oranges in market were Washington Navels, would we not buy more oranges than we now buy? If the Ben Davis apple were equal in quality to the Fameuse or Jonathan, would not the demand for it be much greater than it is?

No question is of greater importance to the eastern fruit grower today than how to increase the consumption of domestic fruit. Our markets are continually stocked with tropical and California fruits. The army of fruit purchasers, on whom we must depend for our income, know or care little about us. They buy what they think will gratify their craving for fruit. Sometimes they are satisfied with their investment and sometimes not. When not satisfied, they generally buy something else next time. As fruit growers, it is our policy to see to it, so far as possible, that when they chance to get a sample of our fruit, they will be made hungry for more of the same kind. You need not claim that they do not remember these things. I was once asked to purchase some fruit for desert, but the supply in

market was rather scanty, and nothing seemed more available than some rather small and greenish-colored peaches, of which I tasted. Contrary to my first impressions, they were found delicious, and when served up with cream and sugar, formed a dish fit for royalty. The next day the memory of those delicious peaches was so alluring that I rode over two miles on my wheel beneath an August sun to get some more of them. It is not true that the average person does not discriminate between the quality of different fruits. It is generally safe to judge the impressions of others by our own impressions, and your or my experience probably does not differ much from that of the average person. In an orchard that is most intimately associated with the scenes of my childhood, was a single tree of the Early Joe apple that was one of the farthest trees from our dwelling. In the latter part of August a path was generally formed across the orchard to this tree, by a quartette of farmer boys, of which I was fortunate enough to be one. It did not matter how wet the grass with which the old orchard was generally carpeted, or how muddy the soil, if it chanced to be cultivated; the visits to this tree were not postponed. We passed many trees of larger and handsomer apples, but these did not allure us in Early Joe time. To our unvitiated appetites the crispness of flesh and richness of flavor of this old favorite overbalanced all other considerations, for we knew a good apple when we tasted it. The fruit was generally small, one-sided and scabby, as the spraying era had not yet dawned, but that did not matter much to us, for our untrammelled tastes placed quality above looks. Nor did it matter how bountifully the tree bore, there was never quite enough Early Joe.

We boys had one advantage over our city friends. The Early Joe tree was permanent, and we could depend upon getting the apples, in their season, by going after them. If city people had Early Joe apple trees to run to, they would soon learn the way to them. But unfortunately they do not. The fruit market is an inconstant, unstable and too often unsatisfactory quantity, and here the fault comes back upon the fruit grower again. How can the marketman keep up a choice and tempting collection of fruit so long as growers bring in only those of Ben Davis quality? There is no doubt in my mind that

if all of the apples offered for sale were equal in quality to the choicest samples, the consumption of apples would soon increase five fold.

We should remember that fruits are in the nature of luxuries. They contribute almost no food, but are eaten, if at all, for their refreshing effect, and for the pleasure they yield to the palate. It goes without saying that the more refreshing and the more pleasing to the palate they are, the more of them will be eaten. It works itself. If I pass a dish of Ben Davis apples to my evening guests, each takes one and it proves enough. If instead I pass a dish of Fameuse, the first one only excites hunger for a second, and it takes twice as many to satisfy them. The same is true of all fruits. We are not likely to accept a second dish of berries unless the first one excited a hunger for more. And we must remember that all these second dishes come back to the fruit grower to be filled.

Suppose a manufacturer were to adopt for his motto, "the quality of my goods is of no importance if the outside only looks well." Would he be able to stand long in the competition of business? The fruit grower, in partnership with dame Nature, is a manufacturer of fruit, and his competition is rapidly becoming as severe as that of any other manufacturer. I know of no reason for supposing that he may wisely ignore the rules that other manufacturers find it necessary to observe.

"But what are you going to do about it?" some of my hearers are mentally asking. "Your theories sound very well, but what do they amount to?" "What good are they going to do us?"

I should not have asked your time to consider a theory that I am unable to apply. There are three ways in which we can work toward the end I am advocating. The first is to refuse to plant a variety that we do not consider good enough for our own table. Varieties like the Champion grape, the Miller raspberry and the Ben Davis apple, that have nothing to commend them except that they look well, should have no quarter in our planting. A variety that is superior for some one purpose, as for cooking, canning or drying, is all right, and may be grown and sold for that purpose. But a sort that is sure to deceive and disappoint the buyer, and tends to divert his taste from fruit to other kinds

of food is a damage to the fruit growers' business and its planting should be emphatically discouraged. I am aware that Wisconsin is not the best state in which to begin this sort of a reform, for the number of varieties that we can hope to grow is much restricted in some of our fruits. But if we do attempt to grow fruit for market, let us grow something that tends to improve the demand for fruit, rather than to destroy it.

The second thing that we can do is to put our fruit upon the market in the best possible condition for the table. This means that it should be picked, so far as possible, at just the right stage of maturity, or at such a time that it will reach the customers in the best stage of maturity. The market for grapes is undoubtedly damaged every year by some growers who insist upon picking their grapes before they are fit to eat, and thus deceiving and disappointing the very persons to whom we must look for our fruit market. Unripe grapes should be kept out of the market by law, if this cannot be accomplished in any other way.

I am aware that in shipping fruit it is often impossible to start it at such a time that it will reach the customers at the best stage of maturity, for we do not always know whom our customers are to be. But in selling to our own customers—and this is the kind of selling that is most to be encouraged—we have full opportunity to carry out this precept, and we should give it all the attention that it needs. We should find out, so far as possible, the purpose for which the fruit is desired, and then furnish a variety that is well adapted to that purpose. If a case of strawberries is ordered for canning, let us be sure that we send a kind, and pick it at the stage of ripeness, that will enable the fruit to retain its form and color when canned, and not shrivel to half its former size, and take on a repulsive dirty-brown color. It is our business to know the qualities of the varieties that we grow and to inform our customers what they want rather than to require them to make the selection, in their ignorance.

A third way is to educate the consumer by sending out printed matter with our fruits. For example, the Warfield strawberry is known to be excellent for canning. Before tacking the cover on a case of Warfields place a card on top of the boxes, with the words "The Warfield; superior for canning," printed conspicuously on it, with the printed side up; and in a lower

corner, request the dealer to place the card upright in the case when exposing them for sale. This is the very kind of information the purchasers are seeking, and they will gladly avail themselves of it. In like manner, place a card in the bottom of apple barrels, labeled, for example, "McMahan, superior for pies," or "Fameuse, choicest dessert apple," etc. Inclosing printed recipes for putting up the fruit in various ways will also prove beneficial in some cases. In the last report of the American Cranberry Growers' Association the secretary, Mr. A. J. Rider, writes, "It is clear that those growers who have sent out recipes for cooking, in the packages, during the last few years, have aided materially in extending the market for this fruit, as well as to further their own individual interests. There is an increasing demand for such packages as contain this literature, and they are generally given the preference. Some dealers have been so enterprising as to order the recipes on their own account, as a means of increasing trade. It is hoped that those growers who have not been in the habit of putting recipes for cooking in their packages will do so the coming year. None should go to market without them."

I do not wish to be understood that I would advocate giving less attention to the appearance of our fruit than we are now doing. On the contrary, most growers pay too little attention to appearance. I would plead that we should give more attention to appearance, and that we should aim to have our fruits as fine in quality as they are beautiful in appearance.

This is a transition period in commercial fruit culture. Until recently, the chief problem that confronted the fruit grower was how to produce his fruits. While this problem still faces him, another, not less serious, has appeared in the foreground, viz., how to sell his fruits at prices that leave a margin of profit. Southern and Pacific coast fruits flood our markets to such an extent that there is comparatively little need of our domestic fruits, and the future promises nothing better unless we can develop it. But fortunately there is one phase of the subject that the fruit grower has hardly commenced to study, viz., the army of consumers. We must study these as the editor studies his readers, or as the politician studies his constituents. We

must learn their whims, we must educate their tastes, we must contrive to keep them both good-natured and hungry for fruit. But we cannot do this by cheating them, nor by catering to their eyes without at the same time catering to their palates.

Mr. Edwards—Do you have to sacrifice quality to get hardiness?

Prof. Goff—That question was discussed two or three times pretty thoroughly, and much evidence was presented on both sides. I hardly think it worth while to bring up the question again. My opinion is, we do not. I think the Fameuse apple proves it, if we need proof.

Mr. Underwood—Do you consider the Fameuse apple hardy?

Prof. Goff—We consider it among the hardy.

Mr. Philips—Would the Wealthy come in among them?

Prof. Goff—I think it would.

Mr. Underwood—Is not quality a difference of opinion any way? I had three or four farmers call on me, I had three or four varieties of grapes, and so I took them to some ripe Brightons, and I expected to hear some compliments. They ate them but said nothing. Then I took them to the Delawares and they were too small, and so on, but as we were going along one of them picked some Janesville and he said "This is the best grape we have tasted."

Mr. Kellogg—He must have chewed tobacco. (Laughter.)

Mr. Tuttle—I had much the same experience as Mr. Underwood. A lady visited my vineyard, and after tasting the Worden and Delawares, came to the Janesville, and pronounced it the best I had. In regard to the appearance of an apple for market, I have had the Early Joe apple for 40 years and I hardly ever put them on the market. They are small and scabby but when it comes to quality, there is nothing to equal it.

Mr. Hatch—Now in regard to sacrificing quality to hardness, I want to say this, if we did not do this, we would be growing a great many varieties now, that are poorer than those we are now growing. I did not put in Walbridge. I did not put in any of

the Hibernial, I do not want it. They are hardy and productive, but we do not want them. I have lost much by the poor quality of apples.

Mr. Tuttle—I think the Walbridge is a better eating apple than the Wollow Twig or Ben Davis. In Minnesota, I see by their reports, that it is the best late keeper there is. The trouble is that it is too small.

Mr. Underwood—I have just two or three suggestions to make. The first is that Prof. Goff should provide a good quality of apples for the boys, and educate them what a good apple is, so that the rising generation will come up and not have that perverted taste. The next proposition is The Minnesota Society offers \$1,000 reward to anyone producing an apple, as good in quality and appearance as the Wealthy, as hardy and productive as the Duchess, and as good a keeper as the Malinda.

President calls to program.

President—Next upon our program is Mr. Gaynor's paper on Cranberries.

DIFFERENTIATING AND FIXING VARIETIES OF CRANBERRIES.

The cranberry is found native in nearly all countries of the northern hemispheres lying between the Arctic circle and the 40th parallel. Although it may be grown under great diversity of soil and climate, in nature we find it only on the open moss marshes and in the tamarack and spruce swamps. Wherever you find a native cranberry vine, you will find spagnum moss and a tamarack or spruce tree at no great distance from it.

There is no state in the union, and probably no country on the globe of equal size that has produced as much or as fine wild cranberries as Northern Wisconsin. In 1890, the yield in this state was about 80,000 barrels, all grown on wild vines. About that time the planting of native vines was receiving considerable attention, and a deep interest was taken in cranberry cultivation; but this interest received a stunning blow in the succession of dry seasons and the vast forest fires of 1893-4-5.

The fires of these years destroyed some of the planted vines,

and wiped out of existence more than 90 per cent. of the wild vines, and left many of the growers in straitened circumstances. In many instances the dry seasons and forest fires changed floating marshes into dry land, and rendered it impossible for the former cranberry grower to continue longer in that business.

Those who did continue after that time have ceased to rely on the natural marshes, and have turned their attention to planting vines and providing them with the conditions necessary for successful cultivation.

It has been known for many years past that there are a great many varieties of wild cranberries to be found in this state; but it has been only within the past few years that any special effort was made to collect, establish and propagate these varieties.

While in the legislature, in 1893, I secured the passage of a bill for the establishment of a cranberry experimental station, and for collecting and distributing to the cranberry growers of Wisconsin, information relative to cranberry culture. To the intelligent grower of any plant it is patent that much of his success or failure depends upon the variety that he cultivates. This is especially true of the fruit grower. To take the cranberry from its wild state and domesticate it, and bring out all of its best traits in distinct varieties, in short, to do for it what has been done for other fruits in past generations, is now one of the purposes of the Wisconsin Cranberry Growers' association and it is for this purpose that a large part of the state aid is now used.

The following is an outline of the plan we are pursuing to accomplish this. We rented one-fourth of an acre which we scalped and sanded and divided into 185 squares, each containing 64 square feet. We then proceeded to collect all the varieties of cranberries we could find. By writing to parties at every locality in which cranberries are grown, we got, and planted at the Station, vines from Massachusetts, Oregon, Washington, Minnesota, Michigan and the various cranberry districts in Wisconsin, and lately through the assistance of the Agricultural Department at Washington, we have secured vines and seeds from Alaska, Russia, Siberia, Norway and the Saghalien Islands.

Diversity of soil and climate produces variation in species which in time comes to have a high degree of fixedness. On account of this we have been able to secure at a very light expense and with little loss of time, a great number of varieties. By transferring these varieties to our Experimental Station, still further variation may be looked for, and the fixed character common to all wild varieties will be thereby in part broken up. When vines of what is claimed to be a distinct variety are received, we select from them a single vine which we plant at the center of one of the squares. The squares are numbered from 1 to 185. A record book is kept in which is entered the name and post office address of the one sending the vines, the name of the variety, if it has a name, a description of the fruit, and what is claimed to be its chief merits or characteristics at the place where found. The number given to the vine is the same as that of the section on which it is planted and the same as the number of the page on the record book on which its record is kept; and in speaking of a vine at the Station, we speak of it by this number.

Upon this page is entered the date of its receipt, the date of the planting, and in the fall of the year the growth it has made, and, if it bears fruit, a full description of the fruit together with any characteristics that might be of interest to the grower. The vine is cultivated and allowed to spread over its section until the section is fully covered by it. When we cannot secure the vine of any variety, we sometimes plant the seeds instead.

We have now planted in this way 142 sections, and 10 sections are planted by seeds. The seedlings are quite slow in developing, and none of them have yet borne fruit. Fifty-two sections were in bearing this year, samples of the fruit were selected from each on August 31st and again on Sept. 11th. At the meeting of the association in January last, these samples were compared, and it was generally found that the late picked samples were better in color and keeping quality than those picked earlier. At the time of the first picking some of the varieties were ripe, and as to these the late picked samples had no advantage. An entry was made on the record book for the berries from each section, recording the form, size, color, keeping quality and gloss of fruit for each variety.

I have here with me a few of the samples collected. After a number of comparisons and tests made in this way we will be able to tell with a high degree of certainty which are the best varieties. These we will distribute to growers for further propagation.

Our plan might well be pursued, with slight modifications, as to any plant you are interested in. The method is slow, you may not live to reap the fruits of your labor, but if pursued faithfully, generations to come may have reason to be grateful to you for the work you have done.

You will ask, would you not resort to hybridizing to bring out new varieties? I say no, not now. For the present it is easier to collect and depend on the abundant varieties that nature has produced, and that we can still further produce by cultivation and change of environment.

It requires skill and some scientific training to hybridize. It is not easy to secure this skill and training in the swamps and marshes of northern Wisconsin, but the hybridizer will come in time, and when he does come, the work we have done will "make smooth his paths."

Mr. Hoxie—I would like to ask you, Mr. Gaynor, how much did you have appropriated from the state, and was it an annual appropriation or specified amount.

Mr. Gaynor—An annual appropriation of \$250 a year.

Mr. Gaynor here refers to cranberries. (He has specimens of different varieties.)

Mr. Gaynor—At one time cranberries of a dark color were in demand, and at Cape Cod they produced a berry called the Early Black, which was a very dark berry. It did not keep. I think that the state of Wisconsin made one of the best investments that it ever made when it agreed to spend \$250 a year for the purpose of developing the cranberry industry. We are developing and bringing out 150 distinct varieties of cranberries. We started with one single vine. Who ought to pay for this, not the individual who wastes his time and is called a crank, it ought to be done by the state. There is no question in my mind but that it ought to be done by the state.

Mrs. Campbell—Why does it take so long?

Mr. Gaynor—Well, a single vine planted four years ago covers a section of 64 ft., about 1.2 of a rod square. At that rate of increase it would be a long time to get enough out of that vine to plant an acre. They increase so slowly. We cannot increase by the seed. We must take the cuttings.

Mr. Loope—Have you better varieties than the Bell and Bugle. Are there better varieties?

Mr. Gaynor—That variety we have originally grew at Berlin. There is no better berry grown in the world I think than the berry grown in Wisconsin, and as for marketable prices, there is none better than the Bell and Bugle. Where they are bruised, you look at the bruise. They healed over. We can begin taking cuttings now, from any of the first year's planting.

Mr. Edwards—Do you propagate the same as currants.

Mr. Gaynor—You can propagate by the seed, but that is a slow way. They take root at any joint in the cutting.

Mr. Tuttle—We take the vines and mow them and run them into a feed cutter to make them 2 inches long, and then we sow them over the ground. We have tried pulling the roots and planting them, but the other is the only sure and successful way. Your marsh must be made level, then we put water on to keep it moist, and six months after they are planted they come up like a green crop.

Mr. Gaynor—In '93 we planted 30 acres in that way and that dry year came on and we lost everything. Give cranberries the proper moisture and the proper heat. If you can supply this you can grow cranberries on sand, muck or even moss.

Mr. Plumb—Is there any difference whether the water is hard or soft?

Mr. Gaynor—It has been said that water with clay in it is objectionable, as the clay has a tendency to coat over the leaves when they are submerged.

Prof. Goff—I am much pleased with Mr. Gaynor's work. I am inclined to envy him in one thing, and that is he has one line of work. I know a great deal has been expected of our Experiment Station in regard to the improvements of fruits, and much wonder has been expressed why we have not had more to show. Our experiment stations are not apple experiment stations, and

are not stock experiment stations, or potato experiment stations, but they are everything.

Question—How many barrels of cranberries has Wisconsin produced this year?

Mr. Gaynor—Forty thousand. That is not 1.2 of the crop produced on the vines in '93. I think four years will not have gone by before it will reach its old high water mark. It will realize to the state one-half million dollars a year. I have my doubts if the strawberry and the apple together have sold for as much cash as the cranberry crop, and I cannot realize why any fellow should begrudge us the little state aid we get. This is a work that is to be undertaken for the love of it. It does not pay. It is the work of a crank. It is a kind of missionary work.

Mr. Barnes—In behalf of this cranberry enterprise that Mr. Gaynor is engaged in, I move you that we elect Mr. Gaynor as honorary member of this society for one year.

Mr. Gaynor—The plants begin to grow when corn begins and stops growing about the time corn stops. About planting them, we have planted them with an instrument with which you throw them on the ground and then pound them down to put them in close contact with the ground. We have scattered them on the water, and when they were well soaked drew the water off. We have gone and set them in like you would plant slips. In another instance we have spread the whole vine over the ground as thick as you can spread straw and then put on the roller.

President—Next subject upon our program is a paper by Mr. Stickney, on

CURRENT CULTURE.

Some twenty years ago I commenced growing currant fruit for market, my example and inspiration being the memory of a city lot in Milwaukee planted and cultivated by a German acquaintance.

On this lot he produced, year after year, enormous crops of very fine fruit, which in those days brought fabulous prices and made him famous. Being then busy with other things, I admired his fruit and came to the hasty conclusion that I could readily do as well if I had time.

Later, when I took time and tried, I soon discovered my abundance of conceit and limited amount of knowledge; but my friend and his garden had passed away and with them my opportunity to learn by observation.

As I now remember his work I believe his success was largely due to deeply trenched soil and to skillful and severe pruning,—and, in my negligent methods, the more I have worked towards these lines the better have been results. Yet with eight acres of currants and a thousand and one other cares, theory may be good and practice fall far behind.

Take any well established currant bush, study it carefully and try to judge what proportion of all its wood really tends to fruit production. First you will be inclined to remove interlacing branches until you give a good opening for air and sunshine.

This being done in fall or early spring, most people consider pruning well done for a year; but how about a multitude of sprouts that start up in May and seem in such haste to furnish a full supply of wood for the next pruning? Can we not by prompt and judicious care arrest much of this growth energy and direct it to the production of stronger and better matured wood and fruit, and into more abundant fruit buds for the coming year? I think we can.

Beyond this there is also room for much skill and judgment in removing older wood, encouraging new branches, shortening the stronger and giving a good balance to all.

My first large planting was five acres. In those days there was "money in it." These, the third season, gave a gross income of \$1,000,—and the next year gave \$1,700. All the return we made was clean culture only, no pruning at all for ten years. Of course crops grew less and quality less satisfactory, until the point was reached of grubbing out or renovating.

We decided to renovate, and commenced by cutting to the ground all old wood; then, as the new growth came on, we removed the weaker, leaving enough of the stronger to make a foundation for the new top.

Since then we have aimed to give a thorough pruning while plants were dormant, and a partial removal of young sprouts early in June. Last season, the third since cutting back, we gathered a medium crop of excellent quality and the plants give

promise of years of usefulness. But market and prices have gone down, down, down, until the vital question seems to be, will it pay? Spoiled as we have been by former good prices, we answer, off hand, No. Then we look about carefully for the thing that will pay better,—and don't readily see it.

In my case, with eight acres of well established plants, the cost of continuing is not great, perhaps one hundred dollars more than to cultivate the same acres in farm crops. This and more is likely to be returned to us. The past season our whole crop was something over 900 bushels, which paid all cost of gathering and marketing and gave us \$200 for cultivation and use of ground.

Our corn crop usually gives us from \$16 to \$20 per acre; other farm crops about the same, so we will continue the currants for a time. I am not at all satisfied with the varieties we grow. Prince Albert is fairly good and because of its lateness fills a useful place, but Holland is too dry and sour to be sold by any man with a conscience.

You remember that I once planted five acres of Fay and in due time dug and burned them. Well, I still have half an acre of them as a reminder of my folly. From these my pride is gratified by a few cases of beautiful fruit, and my patience is cultivated, and perhaps improved, by their utter lack of anything like self respect!

I am looking hopefully for a new variety with the upright vigor of Holland and the size and quality of Fay. When that kind appears I shall want to plant another acre. With that thought in mind I am observing Pomona, London Market and Wilder, all, I think, fairly good, but far short of the ideal.

Our older planting is in rows one way, five feet apart and three feet between plants. Our later planting is in rows five feet apart each way, and is cultivated more thoroughly and with less than half the labor of that in rows only one way. In planting again I would choose rather moist ground and subsoil until I had loosened soil at least one foot deep. Would not manure very highly fearing too much wood and too little fruit.

Applause.

Mr. Chappell—I would like to ask about the Pomona.

Mr. Stickney—The yield is very heavy.

Call on President Kellogg.

Pres. Kellogg—I have had it on my grounds for two seasons, and have had only one season's crop. They were very fine. I believe, taking the size with quality into consideration, they are the coming market currant.

Question—Foliage?

Answer—Holds it longer than the Victoria.

Mr. Hatch—In what packages do you ship?

Mr. Stickney—Sixteen quart berry cases.

Mr. Read—How about the Wilder?

Mr. Stickney—Very well pleased with it. It is a good grower, carries good foliage and bears freely.

Mr. Guilford—I have fruited the Pomona for five years. I have 25 varieties of currants, I have had the Pomona for six years. The bunches are round and plump, the bush is not as rapid a grower as the North Star. It has a good color. I believe it will be well to go into it.

Mr. Kellogg—Quality?

Mr. Guilford—Its quality is sweeter than the North Star.

Prof. Goff—Is the Ruby Castle the same as the Victoria?

Mr. Guilford—I am inclined to think that they are not identical. By standing off and looking at them you can see that they are different. They have a peculiar foliage. I think the Victoria is more productive.

Mr. Philips—At the summer meeting at Appleton, Mr. Floyd showed a new variety that attracted much attention.

Mr. Floyd—It is one I got from New York, and grows a large berry, as long as the Fay. I have fruited it for two years and it is called the Giant Ruby. The wood seems to be quite strong, foliage is good. This last summer the fruit was very abundant, and a great many of the bunches had 20 currants on, the last ones nearly as large as the first.

President—Next topic upon our program is a paper by Mr. Plumb.

The following letter, dictated by our life long member, J. C. Plumb, is the last that we will have the pleasure of perusing pre-

pared by him. Little did any one that heard him last winter think that he was reading his last paper before our state society; and I feel that had he been asked to prepare his last paper for the benefit of our society that this would have been his subject, Our New Wisconsin Seedlings. This subject is one that he devoted the very best years of his life to, that of bringing before the public these new varieties. Secretary.

He says of the Windsor, one that he had great hopes of as a winter apple, raised from seeds planted by P. W. Hill of Windsor, Dane county, Wis., from an apple supposed to be Vandevere. It came into bearing about ten years after planting, the fruit from which was exhibited at the winter meeting early in 1870. It was pronounced the most promising seedling in the lot, and named Windsor Chief, the last part having in recent years been dropped. This tree has proved to be very hardy and prolific, bearing a long keeping apple of excellent quality, resembling the Seek-no-Further more than the Vandevere. It can carry a large load of fruit without loss of a limb. It sometimes blights in nursery on rich land but rarely in the orchard. The seed that produced the N. W. Greening, was planted near Iola in Waupaca county about 1860 and was propagated by E. W. Daniels, first about 1870. It is a very hardy tree productive with age; can be said to be blight proof and bears a large apple of fair quality which keeps with care until April. It is one of our handsomest trees in nursery and orchard and will prove of great value for the north. The old tree was cut down years ago but has sprouted up and is growing vigorously, so I am informed by Secretary Philips. The next two that I think of value are the Eureka, a sweet apple, the tree grown from seeds of Tallman Sweet planted by Secretary Philips' father about the year 1860. The tree is a strong, beautiful grower but so far inclined to be a shy bearer. The next, the Avista, the seeds that produced it came from Vermont in 1857. It has probably borne more consecutive crops than any winter seedling in the state—thirty-one in all. This, too, with good care in the nursery is subject to twig blight, but older trees seem free from it. These four mentioned I consider of most value because they are all hardy winter varieties, and if they go through the present cold winter without

damage I will be pleased. We have other varieties like the Wolf River, McMahan and several Waupaca seedlings that are valuable, but I am looking for the most value in a winter seedling that will stand our climate. This short report I will add to and describe fully before the report is published, describing more fully many of our best fall varieties.

I am sorry to say that our friend was injured and died before this work was done and no record can be found that he wrote any more so we will cherish his memory and be thankful that our departed friend did what he could to further the horticultural interests of our state. I will say that the four varieties Mr. Plumb mentioned first all stood the cold of last winter and are all bearing fruit the present season in my orchard.

The foregoing letter was written to me before the annual meeting asking if the data concerning N. W. Greening, Avista, and Eureka was correct and giving facts about the Windsor. Now after Mr. Plumb's sudden death, and he had carried his paper, read at annual meeting, home to complete and rewrite it, we feared that the above was all we could publish, as his son wrote me he could find nothing of the paper, but I am very happy to say that after the above letter had gone to press his son found and sent to me the paper as he read it, that will be published in the report later on.

Mr. Plumb's knowledge of the geological formations of our state was excelled by no member of our Society, and in nomenclature all respected his opinions.

A. J. PHILIPS,
Secretary.

Motion to adjourn is carried.

Wednesday Evening.
Senate Chamber, 8 o'clock.

President calls meeting to order.

President—We will open the session this evening with a prayer by the Rev. Miner.

President—We will first take up a subject left over from this morning's session, paper by Mr. Toole, of Baraboo.

IMMEDIATE CARE OF PLANTS AND SHRUBS WHICH
WE BUY.

William Toole, Pansy Specialist.

So various are the circumstances and environments, during the period of either transit or waiting of plants from time of removal from place of growth to future abiding place, we can lay down no set rule of care for them, which may not need a considerable modification, according to the different seasons of the year, condition of growth, manner of packing, the kind of plant and the like. We may then with profit consider the "reasons why" for certain things which, if properly understood, might lead us to adapt our methods to the different necessities of conditions as they may occur. If we wish to move a plant, shrub or evergreen to some other place on our grounds we use the greatest care to take up as many as possible of the fine fibrous roots, carrying with them a considerable amount of earth to insure a greater number of rootlets being in an unbroken condition, choosing, if practicable, a time when the soil is moist, that earth and roots may receive as little disturbance as possible.

If we see our plant roots bristling with white feeding rootlets we are all the more content with our expectation of good results to follow. And yet the carnation grower, if choosing a time for removing his plants from field to greenhouse, prefers to do so when the soil is dry enough to fall away from the roots, leaving them bare as the leaves and if possible as unbroken. Some of our nurserymen tell us that they wish their tree roots trimmed quite close, with no fine roots attached, to be assured of successful growth for the future orchard tree. We think we like pot-grown plants for removal, giving a higher price for strawberry plants grown in that way, yet we know it is often best, if shifting a plant from one size pot to a larger, to shake loose as much as possible of the soil, and separate somewhat the roots, before repotting. One customer may write to us to leave as much as possible of dirt on the roots while in the same mail, perhaps, another requests that the soil be shaken from them to save express charges. Each has had practical experience to confirm his

faith in his practice, and knowing wherefore we act, we may do any of these things for the best, as circumstances may make one or the other seem most proper.

We know that some plants, whether with succulent or woody stems are easily propagated from cuttings, while we can do nothing with others in that way; yet with the most tractable kinds, we would prefer having a good lot of roots in working order, to building on a new set of feeding roots. The less root it has the more is our plant like a cutting, but if our plant or shrub has only a little root from which to start new growth, our work is far easier than to make a plant from a bare cutting.

If we would have new roots our top must not work too fast, else we have withered top or dry stems, because moisture has gone off faster than it could be taken up from below. In the cutting bench if our foliage has been allowed to wilt we have little hope of root-forming to follow, yet if carefully watched and shaded before wilting can occur, the cuttings attain a condition of needing less shading, even before root growth has commenced. So too with our newly set plants if we shade sufficiently to prevent wilting, root-repairing will go rapidly on and we soon have them in normal working order, if our planting has been properly done.

We must carefully consider the condition of plants when received and at time of planting. They may have been so packed as to give us foliage bright and fresh in appearance, but with roots so loose that they have to a considerable extent become dry and lifeless. We must then put them in a cool place, dampen the roots and sprinkle freely with fresh soil, examining in a few hours or in the morning and then cut away bruised and dead portions, for new roots can only come from that which is alive and decay promotes further decay. In the meantime we must prevent wilting of the plant if we do not wish to sacrifice any of its present growth. Sometimes the nurseryman packs so loosely that nearly all is dry, or so closely and for so long a time that heating and decay have set in. Our knife and hopes must work together to save all from decay—then careful nursing and waiting. With shrubs or trees in dormant condition it is easy to pack them for transit in cool weather, but if growth is

likely to commence during the time, there need be but little danger of injury if roots are closely packed in sphagnum moss in such shape that they cannot dry out, and root action will go on if tops are not confined so closely as to heat. For this reason it is difficult to pack plants so they will go safely by mail in hot weather. If trees or shrubs are large it is impossible to dig them with any amount of fine roots so they can be packed safely to ship or remain long out of the ground. Therefore the man is right who would prefer to have such close trimmed rather than try to inspire life into dried roots. As it is natural for the feeding roots to keep extending farther out, it is much easier to manage the setting out or packing of plants which have been frequently replanted or root pruned.

It is possible to treat plants so that they may go on and make new roots to the extent of being in better shape for planting than if set out immediately when taken up; and if we have something choice it will oftentimes pay to give our plants—strawberry or others—a little careful nursing to promote root-forming before we set them out in the open ground.

Greenhouse men seem to have a love for the habit of squeezing in the hands the damp soil enclosing the roots, before packing. Often it is because there are not enough roots to hold the soil together, so they make the pressed soil hide the deficiency of roots; but, if received in this shape and if the soil is baked hard, it is better to soak the earth to wash it away from the roots, then sprinkle soil on the damp roots and replant. The hard soil if left on may continue hard and repel the water which should reach the roots.

We know that to promote root-forming the tops of cuttings or plants should be in lower temperature than where the roots are and a hot bed is an ideal place to establish plants which are expensive enough to make it worth while. A cold frame with cloth shading makes a valuable nursing bed, but whatever may be our facilities for caring for plants and shrubs at time of setting out, after removal we must have a set of feeding roots before a healthy growth of plant can follow. If top growth is promoted too rapidly either drying up or a diseased condition must follow. Soil must be pressed firmly to the roots but it may be

done within such narrow limits that the hard surrounding of the roots prevents moisture reaching them. Where shading over all is not practicable, sometimes wrapping stems is of great advantage. Roots and buds can start only from live tissue, so dried or decayed material should be cut away lest decay may spread.

It is desirable to save all the live roots possible and a mass of earth is not so valuable as a mass of active roots, but dead roots or tops are worse than useless. If there has been necessarily a sacrifice of working roots at time of taking up the plants, often much may be done to promote a new growth of roots before the final planting, and in packing for shipping or holding in stock after it is too late to keep in dormant condition, the roots should be more closely packed than the tops, in sphagnum or soil, so that growth instead of decay may go on. Dipping the roots in mud at time of transplanting is not advisable because the roots are drawn together and cannot be spread out in planting. It is better to wet the roots with water and sprinkle on all the soil they will hold. Sometimes plants are received in a frozen condition. In such case it is better to cover all over with cool soil and let them remain until frost is all drawn out. We can then judge if enough life is left for hope to find a foundation.

Much applause.

President—We will now take up the program as mapped out for this evening, "Future of Wisconsin Apples," Dr. Loope.

Dr. Loope—I wrote this paper for the purpose of provoking discussion along a certain line.

THE FUTURE OF WISCONSIN APPLES.

Last season was a hot inning for Wisconsin apples in more than one sense. The unusual shortage in the east and south and the unusual large crop in Wisconsin was to our orchardists a revelation and a bonanza. The natural sequence of this situation is that every man who had a few apple trees will buy more or less largely for next spring's planting and those who had many trees will want to plant more. If, then, trees are to be planted

what kinds shall we plant? How many varieties have we that are grown in sufficient quantity—quality assured—to go into distant markets and bring good money? We cannot count our barrels of R. I. Greenings, Baldwin, Seek-no-Further, Northern Spy and that class of standard eastern apples for we have them not. Why? Well, they have succumbed to our trying climate long ago. Friend Tuttle says they froze to death. Did they? Does not Michigan, New York and Ontario have as rigorous weather as Wisconsin and as long continued cold? If, as I suspect, that is not the whole reason, why do they not do as well here as in the states mentioned? Is there some other good theory that will explain the condition, for this is not a “theory but a condition,” that confronts us? I shall not attempt to answer this, but leave it for others more competent and with larger experience to determine and hope we will find out the exact reason. The fact remains that these varieties do not succeed. If, then, we have not and cannot have these varieties to rely on, “where are we at?” What long keeping apple have we of such excellent quality that will compete favorably, or better still, supplant the eastern standard varieties, and as I pause for reply, echo elusively answers—What? I suppose in fact, that there is at present no other answer. We have N. W. Greening, a most beautiful, large, hardy apple, and in these respects it “takes the cake.” Not a first-class eating apple. Without mentioning other varieties, I believe we have no apple for distant markets—winter variety—grown in profusion, that would supplant or compete with eastern varieties. We have apple trees large and sufficiently old to fill thousands of barrels, if they were the right kind and were prolific. It is then a lamentable fact that we are short on winter apples when at the same time we can grow fall apples in any quantity and beat the world in their excellence. Members of Wisconsin Horticultural Society, what are you going to do about it? Will you give up the problem? Are you going to submit and call it fate? Will you lift up your voices in feeble lamentation and close by saying: “We can’t.”

Shall the great and prolific state of Wisconsin that numbers among its citizens a wise Plumb, an eloquent Hatch, an aggres-

sive G. J. Kellogg, an ubiquitous Philips, a talented Goff, and a multitude of earnest, intelligent workers in horticulture whom I greatly admire and respect and will not name, calmly sit down and submit, when by a common and united effort we may find for ourselves what we now lack—winter apples—rich, delicious, healthful and comforting to our bank account?

How can we do this most desirable thing? I expect in the ensuing discussions that half a dozen of you will have some Russian, Dutch, French or Philippine apple that you will vouch for, but you must have an apple that will surely stand on its own proven merits as a better apple than is now grown in quantity in Wisconsin. If you have an apple superior in quality—a late winter variety, beautiful in appearance, fair sized and a sure winner—then trot it out and show its gait. We want a two minute apple and the man who can show it shall have all the honors. We will bow down and worship him. We will canonize him and place him in the calendar of Horticultural Saints and then grow his fruit and fill our pockets with filthy lucre. He shall have all the honors. We will take the profits. But the main point in my contention is that this apple must be a Wisconsin seedling. It must be evolved from Wisconsin soil and its germ nourished and founded in our own fair commonwealth since we fail to have found this apple elsewhere. We must subvert the theory of our friend Plumb, who holds that in securing excellence in an apple we sacrifice hardiness. If that is a law we must perform a miracle, a more beneficent miracle than was ever before performed—giving healthful food to all men—giving pleasure in the eating of it—giving beauty to emphasize its palatability—giving profit to add to the zest of growing it.

To you members of Wisconsin Horticultural Society, I commit the details of this evolution. There is to be no fainting or faltering in the race to the goal, for you must reach that goal. I firmly believe it will be accomplished and you will notice by the exhibits here before you that the race is on. Bring on your theories of cross fertilization and hybridization and your other scientific terms that most of us know so little about, but knowing little we are sure the words must be pregnant with something

good and we accept them as being as sure as our hope of eternal happiness. But be sure to get down to work. Don't let a few of us who know so little about these great possibilities go about groping blindly for that grand realization—a new good winter apple. Many of you before me are experts in all things horticultural, and you ought to know how to go to work. What have you done? What results can you show? What line of experimentation can you impart to us, who are tyros in the business? We have had visions of great things when some shrewd man found the perfect apple and with great advertising and glowing pictures peddled out his trees through the medium of truthful(?) agents at ten dollars for six trees.

That original tree is still to be seen (in dreams) standing exposed to the four winds of heaven, to say nothing of arctic frosts and the scorching sun of midsummer, with no touch of blight and proof against scab—loaded with exquisite fruit and surrounded by the admiring family who pocketed the proceeds of the truthful agent's sales. We should found an asylum for poor, worn out, truthful tree agents who have sacrificed themselves at the expense of the general public and who for their devotion to tree agent truth should have been in congress or state's prison. Can there not be some careful systematized plan of experimentation adopted which might be likely to bring results? Can you not plant seeds of apples subjected to cross fertilization and scan closely the results and at least have some hope of succeeding in time?

I only know that for Wisconsin nothing has been accomplished by any definite plan, if indeed anybody has had a plan. The seedlings which have already been found good have come entirely by chance so far as my knowledge goes. There have been some good ones but not *the apple*. My own fair county of Winnebago already has hundreds of seedling apples growing by the wayside, in the forests, in cemeteries, in gardens and near the ruins of pioneer houses. Of the seedlings I show you here one grows in an old fence corner, one in a cemetery, one by the corner of an old house, one in a clump of bushes, one in an orchard, one or two were planted from seed grown by the

owners. It is no wonder that we have not found the apple yet. It will be greater wonder if we do at length stumble onto it.

How many have been discovered and how few have been found worthy. The apple is not yet discovered unless by chance it is here now.

I have written this not as a wise dissertation upon the situation but in hopes of provoking discussion and criticism. I am prepared to take the consequences. You may stand me up against the wall and fire your volleys at me as the Spanish did the Cubans. You may mangle my body and limbs—the ladies may fire at my heart—it has been hit many a time but has scarcely a scar left now—do what you will with me but I'll never submit until you find that *apple*. If after all this fierce engagement *I* can storm the rampart of nature and secure the prize I shall be a greater hero than Dewey after Manila or Roosevelt and his rough riders after Santiago, for in my victory I shall have shed no blood but will have brought joy and health and prosperity to the poor as well as the rich, and will still have conquered and will reign over the whole civilized world, for the apple will prevail.

Laughter and applause.

Mr. Kellogg—The only way the doctor can get out of this now is to sing a song. (Much applause.)

Doctor—I do not know a horticultural song.

Call for Frog Song, which the doctor sang.

Applause.

President—Next topic upon our program is "Recent Travels in Russia, Trans-Caucasia-Turkestan, Western China, and Siberia, in Search of Plants and Seeds for the Department of Agriculture," by Professor N. E. Hansen, of South Dakota Agricultural College.

EVENING SESSION.

Prof. N. E. Hansen, of the State Agricultural College, Brookings, South Dakota, delivered an address on his recent trip to European and Asiatic Russia. The lecture was not confined to horticultural topics but the rough experiences of travel were also given, especially in the overland journey by wagon and sleigh of over two thousand miles in Asia. Prof. Hansen has furnished a brief synopsis of the lecture as follows:

March 26, 1898, the writer returned from his trip of nearly ten months in Eastern Russia, the Caucasus, Russian Turkestan, Bokhara, Western China and Siberia, where he went to collect new and rare varieties of seeds for the United States department of agriculture. An account of the tour and a synopsis of the results accomplished, were published last March upon my return in most of the newspapers of the country. Something over four car loads of seeds were secured, which were distributed all over the United States by the agricultural department at Washington. The intention of Secretary Wilson in sending the writer on this long journey was to obtain seeds from the dry cold and the dry hot regions of extreme eastern Europe and Central Asia for trial in regions of similar climate in the United States. A brief account of the itinerary may be of interest.

At St. Petersburg the imperial department of agriculture furnished an expert scientific guide for a six weeks' tour of investigation of the agricultural experiment stations and schools, the forestry plantations and model farms of the east Volga region. Since the famine year of 1892, the Russian government has made strenuous efforts to discover the cause of the apparent increase in the drouths, and to find plants better adapted to the climate. Large areas are being planted with timber, irrigation experiments are being carried on, and especially the native plants of the Volga region are being brought into cultivation. The progress of this work was studied and seeds obtained of promising varieties. In this region a hardy kind of camel has been introduced from the Kirghiz steppes of southern Siberia

and northern Turkestan, and they have proven superior to horses for heavy farm work. They endure more severe heat and can live on poorer food. One camel is regarded as equal to two horses in strength, although slower, and endures the severe winters equally well.

A trip was next made to Kiev, the "holy city," or Jerusalem of Russia, to see a large agricultural fair, where all the products of southern Russian agriculture were on display. At Odessa a new guide was secured for the remainder of the journey, and the Black sea was crossed via the Crimea to Trans-Caucasia, the ancient kingdom of Georgia, which is now in Russian hands. Some seeds were obtained from the foot of the mountain where Noah landed his ark. The Caucasus is an extremely interesting and somewhat exciting country to travel in.

A German professor of philology, who has carefully studied the subject, says that seventy languages are spoken in Tiflis, the capital. In the mountains of the Caucasus are found the remnants of many nationalities that have perished elsewhere. They have been left behind during the period of the great migrations of people in prehistoric times. Hence it is that each valley contains almost a distinct nationality. Remnants of customs and habits are found here, which have become extinct elsewhere. A valuable collection of fruits, cereals and plants was obtained here.

The Caspian sea was crossed to Krasnovodsk into Russian Turkestan, where the new Trans-Caspian military railway was taken through the deserts and moving sands of Russian Turkestan and Bokhara. Several places were visited, and a large quantity of seeds obtained.

In Central Asia a marked feature of the agriculture was found to be the native alfalfa (*Medicago sativa Turkestanica*), which is a distinct variety or sub-species of the common alfalfa and greatly superior to it in extent of root system and capacity for resisting drought and heat. This has been shown by actual trial side by side in Turkestan, and it has been introduced by the Russian government into the dry steppes east of the Volga river in European Russia, and it is also coming into cultivation in southern Siberia. Some 18,000 pounds of the seed was ob-

tained from eight different sources, from the cotton belt up to the latitude of forty degrees below zero. The northern limit was found in the overland journey.

The muskmelons of Turkestan were found to be of great size, many running from twenty-five to thirty-five pounds in weight, snow white in flesh, and quality superior to any American melon. This is part of the ancient kingdom of the great Tamerlane, who was the Napoleon of Asia nearly five hundred years ago and made himself monarch of one of the largest empires ever known. This country was extremely dangerous to enter, before the time of the Russian conquest a few years ago. During the past ten years only, has access been possible without the greatest hardship. The inhabitants are Mohammedans and are called Sarts.

Bokhara has been called more oriental than Constantinople, as it has been so little subjected to European influence, and it is so far out of the path of travelers. The tomb of the great Tamerlane is at Samarcand, and also the ruins of his magnificent palaces, mosques and schools. These are in the Persian style of architecture, with the walls covered with enamelled-tiles of blue, green and other bright colors in mosaic and other designs. The effect is extremely beautiful. The colors are perfect after all these centuries, but the tooth of time has touched the temples, and last year in September an earthquake destroyed one of them. The Russian government is doing its utmost to preserve these grand relics of a once glorious past, and keep them in a state of repair. But the wonderful mosaic and the colored tiling cannot be replaced, for their manufacture is a lost art. They form a striking contrast to the present buildings, which are all of sun-baked clay. The Sarts or Bokhariots have an eye for color. The costume of the men consists of a "khalat," which is a dressing gown mostly of silk, of the gaudiest colors imaginable. Some look like an "animated barber pole" or ambulating rainbow. A street scene in Turkestan is a study in strange designs and startling colors in dress. Here, truly, may be seen the biblical Joseph's "coat of many colors."

Turkestan is a sealed province to foreigners. It is near to India, and Afghanistan acts as a buffer state to India. The

Russian policy in central Asia is an admirable one, as the natives are much better off than under their old native rulers.

At Tashkent, the capital of Russian Turkestan, the overland journey of over two thousand miles, was begun through northern Turkestan, western China and western Siberia. Thirteen hundred miles in a wagon, and seven hundred miles in a sleigh, the northern route homeward being chosen because the Siberian railway could be reached by this means. From three to five horses were employed, changes being made at short intervals so that quick time was made.

The Iowa State Register says: "A large number of samples of seed were obtained in the overland journey, which was exceedingly venturesome and was a test of the remarkable endurance of this young man."

The part of China visited is known as Chinese Turkestan, Kuldja being the leading town. The people are mostly Dungs (Chinese Mohammedans), but the officials and a large part of the population are the true Chinese. Here, as elsewhere in Asia, it took two interpreters to do business, the local interpreter translating from the native Asiatic language into Russian, and my own interpreter from Russian into German, which the writer speaks. At one place, another interpreter was added; the first translating from Chinese into Tartar; the second from Tartar to Russian, and the third from Russian to German. The protection was furnished by the Russian consul and the commander of a Russian Cossack fort. This part of China was held by Russia for ten years as surety for the payment of the Chinese war debt which was afterwards paid and the territory returned.

The new Siberian railroad was reached at Omsk and the return journey made by Moscow, Berlin, Bremen and New York.

The writer had some narrow escapes from death by accidents in the rough overland journey, and has material for a book, were he inclined to write one. The results are very satisfactory, as many new varieties of plants were secured that will be of value for general trial in the United States, especially the arid regions. The parts of Asia visited will never be popular for travelers, and tourists are not recommended to try the overland

journey. I must express my hearty thanks for the many courtesies extended to me by the Russian authorities throughout the empire, and of the warm and friendly feelings entertained throughout Russia for America and Americans.

HORTICULTURAL NOTES.

VLADIMIR CHERRY.

The hardiest good cherries in the world are probably those grown in the province of Vladimir, something over one hundred miles east of Moscow. They are grown also to a considerable extent around Moscow. I saw these in my first trip to Russia in 1894, and my second trip has only confirmed my good opinion. The Vladimir is a fine black glossy cherry, fully as large as Early Richmond, with small pit and colored juice and of excellent quality. This variety has already been under trial in the United States but the experience is that it does not succeed on Mazzard or Mahaleb stocks. Russian horticulturists insist on the fact that it must be grown from sprouts or seeds. Dr. Schroeder, of the Agricultural College at Moscow, told me that it comes very nearly true to seed. The trees are naturally short-lived, ten to twelve years, and dwarf in habit, ten to fifteen feet, and are grown in bush form with several stems; as the larger ones die down others take their places. This cherry is a distinct race or type, and endures 40 degrees or more below zero. In some parts of Russia it is used to some extent as a stock for other cherries. We have been unsuccessful in growing this cherry from imported pits, but intend to keep on trying. Some young trees were obtained for the United States Department of Agriculture, those sent to Brookings last spring are doing well* but the pits were a failure, having heated in transit.

RUSSIAN POMOLOGISTS.

At the Agricultural Exposition at Kiev I met several of the leading Russian pomologists. A fine display of fruit was on

* These trees endured the winter of 1898-99 perfectly at Brookings, with a minimum temperature of 40 degrees below zero.

the tables. The variety we call Anisim was exhibited under a Russian name meaning "beauty," while a small yellow apple was called Anisimovka. I learned that Russian apple nomenclature is still in a state of confusion, but the work now under way will throw more light on the subject. The inherent difficulty of comparing varieties in two countries so far apart will probably necessitate our doing the work alone so far as needed for our northwestern states.

NEW HYBRID APPLES.

At Moscow, I found Prof. R. Schroeder, who has been a leader in Russian horticulture for over fifty years, still active and in good health. Some years ago he crossed the small berry-fruited crab of Siberia, *Pyrus baccata*, with several varieties of the Russian apples. These hybrids are now coming into bearing and are very promising. One I noticed was over twice the size of Whitney and of good quality. Dr. Schroeder thought that these hybrids would extend the northern limit of Russian apple culture to a considerable extent. For southern Wisconsin this union of species will very likely have no value but it may give us apples hardy upon our northernmost boundary and in Winnipeg and Assiniboin.

In eastern Turkestan and western China I found a race of small, sweet winter apples, with flesh and skin red throughout. It is promising as the ancestor of a race of red-fleshed apples. A variety of this type of late found its way into Germany from Turkestan under the name of *Pyrus Malus Niedzwetzkyana*. The wood, young leaves and cambium layer also show much red. I met Mr. Niedzwetzky at Vernoe, the capital of the Semiretchinsk province; he found the apple in the mountains between Turkestan and China. The name is a trifle difficult for American tongues.

A NEW RASPBERRY.

One thousand plants, the entire obtainable stock, was secured of a new species of raspberry of trailing habit, recently discovered by explorers in the mountains of extreme northern China. The fruit is orange yellow in color, of large size and of peculiar

but very pleasant flavor. The plant has proven hardy, productive and desirable at the Imperial Botanic Gardens at St. Petersburg, and is worthy of a trial. Botanically the plant is known as *Rubus xanthocarpus*, Bureau et Franchet. Probably the Chinese yellow raspberry will be a good common name.

A NEW HEDGE AND FRUIT PLANT.

At St. Petersburg I was interested in a large shrub from Irkutsk, Siberia. This plant (*Hippophaea rhamnoides*) is also found in western Europe, but this winter kills in Russia, while that from Irkutsk is perfectly hardy and bears good fruit, similar to Buffalo berries. The plant is of the same botanical family as the Buffalo berry and the Russian wild olive. The bush is thorny and useful for hedges; the fruit is extensively used in Siberia for preserves. A cordial is also made from it.

THE RUSSIAN REMEDY FOR ROOT-KILLING.

I inquired at many places in Russia regarding their method of preventing the root-killing of young apple trees in nursery and orchard. As is well known, this is a great source of trouble in a large part of the prairie northwest. I found that the Russians had solved the problem by using the true berry fruited Siberian crab, *Pyrus baccata*, as a stock. Dr. Schroeder at Moscow told me that the seedlings are transplanted into nursery rows and budded at the usual time in August. The trees make a good growth in the nursery, bear at least two years earlier in orchard and are dwarfed somewhat in size of tree.

In the southern parts of Russia, as at Kiev, where even French pears are grown, I found the nursery stocks to be mostly ordinary apple seedlings from Germany and France, as they were cheaper than apple seedlings of Russian origin which were difficult to obtain in commercial quantities. (A similar state of affairs obtains in America where crab seedlings obtained from France, or grown from imported seed, are at times cheaper than seedlings from seed saved at our own cider mills.) *Pyrus baccata* is the hardiest known species of the apple and is hardy even at the Agricultural Experiment Station at Indian Head, about 350 miles west of Winnipeg, on the Canadian Pacific Rail-

way, where the thermometer goes down to 52 or more degrees below zero. *Pyrus baccata* should not be confounded with *Pyrus prunifolia*, of which Transcendent is an example, and appears more subject to blight. Seed of Siberia is not yet commercially obtainable. I would suggest saving the seeds of the old cherry crab, also the old Yellow or Red Siberian. The true *P. baccata* has deciduous calyx segments, that is, the old sepals at the "blossom end" of the apple fall off towards maturity. A Russian writer recommends especially *Pyrus baccata cerasiformis* and *Pyrus baccata cerasiformis rubra*. Experience in America has already shown that the cultivated apple makes a poor union in top-grafting upon the Siberian crab. Nor will root-grafting upon pieces of crab root be enough. No roots from the scion should be permitted. The stocks for a fair test should be handled much like the Mahaleb or Mazzard stocks for the cherry in the eastern nurseries, setting the stocks in nursery first and afterwards, when established, budding or grafting the cultivated apples upon them. It may largely do away with root-grafting in the winter, and hence make the trees more expensive, but the method is worth trying. Perhaps blight may interfere with the success of this method in some localities. All that remains to be tested by experiment. It will take many experiments to fully settle the question. Let all who can try a few and report results.

Thursday A. M.

President called meeting to order.

Mr. Hoxie offers resolution relative to death of Mrs. Adams. Mrs. Campbell moves adoption of the resolution. Seconded. Motion is carried.

President—We will now take up our regular program.

President requests Vice President Johnson to preside.

ANNUAL ADDRESS.

President Kellogg reads annual address as follows:

Friends and Members of the State Horticultural Society:

At this time when the horticulturists of Wisconsin are called together in reunion it becomes my duty to submit to you a brief review of the conditions of horticulture, and present such suggestions and recommendations for your consideration that may serve as a guide in our future work. This no doubt is expected in return for the honor and pleasure of standing at the head of a society which was organized with this one great end in view, the upbuilding of horticulture in every nook and corner of the great state of Wisconsin. We have again met, for our mutual good. By exchanging our experiences, our successes, our failures, we shall receive as well as impart much information that will be of benefit to us all. This is the great school where all are teachers and all are pupils. By a united effort we can make our labors as horticulturists more productive of pleasure and profit. The discussions upon the topics presented will bring out important questions to stimulate inquiries and impress upon our minds the best methods of performing the various details of our work. In casting a retrospective glance over the past we note the great improvement in the production and dissemination of new fruits and flowers brought about mainly by the organization of such societies as ours and holding of such meetings as this where new fruits and new methods are discussed, and the knowledge, experience, and discoveries of each individual eventually become the common property of all.

You who were present at the early meetings of this society and have since aided by your presence and experience at nearly every annual reunion are indeed veterans of horticulture, and to each of you, the living and the dead, are justly due the rewards of a well spent life and a duty well performed, in the developing of new fruits, flowers, and vegetables. The time will never come when we can lay aside our work and say we have reached the highest limit in the evolution of plant life.

The possibilities for improvements on the present high stand-

ard of fruits and flowers are infinite and yet in the embryo state, and the problem is still given us how we can further advance toward perfection of these—Nature's best gifts to man.

While we should fix the idea of improvement or advancement permanently before the fruit grower, another important question for us to consider at this time is not the selection of varieties, location, cultivation, etc., but "How can we make the business of fruit growing pay?" The past season's experience with small fruits selling at wholesale from 40 cents to 50 cents per case and leaving scarcely any margin of profit to the grower. This question comes home to all who are engaged in this industry commercially. However attractive this work may be, unless the cash receipts at the close of the harvest more than equal all expenses, including a fair compensation for our labor, the sooner we lay down our tools and abandon fruit growing as a business the less our capital will be exhausted. I do not wish to speak discouragingly of the small fruit industry as it has been the foundation for many a happy home and materially aided many children in securing the benefits of a common school education. There is scarcely a hamlet or village in the state of Wisconsin but has its supply of home grown berries and a surplus to ship—and the result has been there is no margin of profit to the grower.

This brings up the question of canning and evaporating, which in the future will be an important factor connected with the small fruit industry. These are questions which should receive your consideration.

At the last annual meeting of this society it was decided to make an exhibit of fruits at the Trans-Mississippi Exposition, and the sum of \$500 was appropriated from the general fund to maintain such an exhibit. This amount seemed insignificant, as compared with the exhibit the state of Wisconsin should make and maintain the high reputation she received at New Orleans and the Columbian Expositions. We secured 300 square feet of space, at a cost of \$150, leaving the small sum of \$350 with which to collect, set up and maintain a creditable exhibit. This amount was found entirely inadequate, and at the summer meeting the society was authorized to borrow \$1,000

or so much thereof as was deemed advisable to make a creditable exhibit. I am pleased to inform you we were obliged to borrow but \$300, and thus making an economical exhibit that in many respects was second to none and was the admiration of thousands of visitors from nearly every state in the union.

The Exposition has come and gone; while we may have some regrets, yet there were many pleasant experiences. I feel that the meager sum of money was well expended in maintaining our reputation as an apple growing state.

The thanks of this society are certainly due Mr. A. L. Hatch, who accepted the responsibility of setting up our exhibit, and his untiring efforts in soliciting, caring for and maintaining the exhibit for nearly four weeks; also to those who so cheerfully and generously responded with the choicest of fruit to maintain the exhibit.

The large crop of apples with which our state was favored the past season is evidence that we have passed that period of doubt and uncertainty as to the successful and profitable orcharding in Wisconsin.

Let us strive to maintain the reputation we have made and plant only such varieties as are adapted to our soils and climate and will bring highest prices in market. I feel that we are just now entering on a new era in commercial orcharding in Wisconsin, and there is a great work for this society in eliminating many varieties. We now have on our list and recommend only those which have proved hardy, productive and of commercial value by actual test. On account of the amount of money expended in making an exhibit at the Omaha Trans-Mississippi Exposition, our treasury will have been drained very low and if not reimbursed by the present legislature it will be necessary to exercise the most rigid economy in the administration of the affairs of our society the coming year.

At our last annual meeting a committee was appointed to confer with Gov. Scofield, who heartily endorsed the project of an exhibit at Omaha and the maintenance of our reputation as a fruit growing state. I have every reason to believe that his excellency, the Governor, will lend us valuable assistance in securing legislation for the reimbursement of our treasury. There-

fore, I would recommend that the Executive Committee of this society instruct the Committee on Legislation to draft a bill and have the same introduced at the present session of the legislature for the reimbursement of our treasury to the amount of money expended in making the exhibit at the Trans-Mississippi Exposition.

Our system of trial stations which was established in 1890 is now practically abandoned. Being located in the central and southern parts of our state where many individuals were experimenting along the same line, they did not produce the results which were anticipated. However, they were of value to the inhabitants of the immediate neighborhood in which they were located. The demands of the northern portion of our state are vastly different and more imperative than the southern and various questions arise as to the best methods of perfecting and extending our trial station system.

Our state legislation has wisely appropriated the sum of \$250 annually for the maintenance of trial stations, and it is imperative on this society to establish these stations where they will be of greatest benefit to the greatest number of people in solving the perplexing problems of horticulture. I will again urge the necessity for more trial stations in northern Wisconsin and earnestly recommend this for your consideration.

It was my pleasure to serve the new State Board of Agriculture, as Superintendent of the Horticultural Department at the State Fair. I am pleased to say that our fruit growers and florists, mainly members of our society, notwithstanding the low premiums offered, responded with as fine a show of fruits and flowers as was ever made at any of our State Fairs. As horticulture is closely identified with and a branch of agriculture, so should the relations of our society be closely identified with the State Board of Agriculture and of the most friendly nature. While we have every assurance that the premiums in this department will be raised to an amount that will be commensurate with premiums in other departments, I would suggest that during this session we take notice of the situation and express our views in resolution appropriate to the occasion.

Our library, which is now composed mainly of our annual

reports and reports of neighboring states and is valuable as a reference work, it does not contain that specific information that is presented by individual authors. I would suggest that our Secretary be authorized to purchase for our society and place upon the shelves of our library scientific and instructive books relating to horticulture, not to exceed the amount of \$25. If this could be continued for a series of years we would soon be in possession of a library that would be an honor to the society.

We need more memberships in our state society. How best to accomplish this is a perplexing problem. While our membership has shown a marked increase since the advent of our "Wisconsin Horticulturist" it has not reached the number we had anticipated.

There is an imperative duty resting on every member of this society that no one else can perform. All should exert their influence to increase the circulation of our magazine and thus secure more memberships. At a conservative estimate as compared with the horticultural interests of our state we should have at least a membership of 800, all working in harmony for the upbuilding of a most worthy industry—the adornment of our homes and the production of healthful fruits and beautiful flowers.

Although the past season to the horticulturist has been one of discouragement, beset with close competition and low prices, it is doubtful that we shall ever attain that height of perfection when we shall know just what to plant, how to cultivate, how to spray, how to harvest and how to market that our work may be without some disappointments.

Mr. Hoxie—I have another resolution to take the place of the five-minute speech that I was put down for. (Reads resolution relative to tree agents.)

Dr. Loope moves adoption of the resolution.

Mr. Hatch—I move that this resolution be referred to the committee on Resolutions. Carried.

Mr. Philips reads telegram from railway agent at Chicago.

President—We will now listen to the report of the secretary.

Mr. Philips reads report.

President—The financial part of this report will be referred to the committee on Finances, balance to the committee on Resolutions.

Motion made that H. F. Thurston and W. B. Lloyd be made honorary members for the following year. Carried.

Mrs. Johnson—I would like to add the name of Miss Kayser. Carried.

Mrs. Campbell—I move that Professor Hanson be made honorary member of this society for the ensuing year. Carried.

Motion that N. A. Kluck be made honorary member for one year, as he voluntarily crossed the boundary from Illinois in order to attend our meeting. Carried.

Mr. Thurston makes announcement relative to Mr. Perriam not being able to come on account of the grip.

Mr. Philips reads letter from J. S. Harris. Letter of greeting:

La Crescent, Minn., Feb. 8th, 1899.

Friend Philips:—

I would have liked very much to have been present at this meeting of your State Horticultural Society, but this extreme cold weather makes it imprudent for one of my age and condition of health to venture away from my very comfortable home. I wish you may have a very profitable meeting and royal good time. Please remember me to the friends and old veterans who may be present, especially Stickney, Tuttle, Plumb, Kellogg and others who have long been fighting the good fight and are conquering the enemies of successful fruit growing. Counsel the younger members to draw inspiration from their good words and works, and continue to work until every farm shall have its good orchard and every home shall be a model of beauty, comfort, peace and plenty.

Yours truly,
J. S. Harris.

P. S. I enclose a hastily written report of Mr. Loudon's seedling grape exhibit at last State Fair. Perhaps you can use it in report or magazine.

President—It is customary before election to give all members a chance to pay their annual dues.

President—We will now proceed to elect officers for the ensuing year.

Mr. Kellogg received largest number of votes for President.

Mr. Kellogg—I sincerely thank you for the honor you have conferred upon me, but I will under no circumstances permit my name to go before the convention.

Nomination speech for Dr. Loope, by Mr. Babcock of Omro.

Mr. Hoxie—I wish to say that we have old members in the society who have worked hard for us. I have not a thing to say against Dr. Loope, but I would like to see some of our older members honored, and therefore I present the name of Mr. Franklin Johnson, of Baraboo.

Mr. Johnson elected President.

Mr. Babcock, of Omro, Vice President.

Mr. Philips, of West Salem, Secretary.

Mr. Coe, Fort Atkinson, Treasurer.

Mrs. Vie Campbell, Evansville, Corresponding Secretary.

Prof. Goff, Madison, member of the Trial Orchard Committee.

Mrs. Campbell makes announcement relative to railroad certificates.

President—We will now take up the paper by George J. Kellogg of Janesville, Future of the Small Fruit Industry in Wisconsin.

Mr. Kellogg—I did not consider this question assigned to me of sufficient importance to write it up. What I have to say, I can say in a very few words. I wish to emphasize the fact that for the last thirteen years our state has been running farm institutes all over the state and has sent our best men, horticultural men, to every institute for the last thirteen years, and we have so thoroughly and satisfactorily humbugged the farmers that they have gone into fruits in wholesale. The fact is that the future industry of the fruits in Wisconsin has all been knocked to thunder. As long as you have the institutes, and prices are low, it will remain this way.

Mr. Tuttle—I think all the small fruits will be knocked out this winter. Suggests leaving out the word "humbug."

Mr. Edwards—Is that the correct way to look at this matter?

I understand that we are organized as a society to promote the raising of fruit for the individual grower, not for commercial purposes. It is of more consequence to the farmers of Wisconsin, a thousand times, than it is to the commercial grower.

Mr. Underwood—I do not believe there are 10 per cent. of the farmers in the country who have fruit on their table as they ought to have. I think that is where the work of the society ought to lie. Do not be discouraged because commercial fruit growing may have been over-done.

Mr. Hoxie—I suppose that what Friend Kellogg suggests was a tremendous joke. It is the work of the farm institutes and the work of our society to educate the people to the point where they will grow their own fruit.

Mr. Austin—I do not wish to lock horns with brother Kellogg, as he usually says what he means, but it is our duty as horticulturists to educate the people as there is nothing so healthful as nice ripe fruit.

Mr. Kellogg—I am glad I threw in this little bomb. It waked these folks up. The farmers have become very much enlightened, and when we now ask for place on the program at the institutes for our fruit talks they give us twice as much time as we ask for. I have taught the boys how to graft. I have distributed apple seeds, requesting the boys to plant them. What we want, is to have every farmer have all he can use, and they won't have it if they do not raise it. This winter is cleaning out the blackberry crop, and a portion of the raspberries, and if you have not covered your strawberries, it will take them in March.

President—Motion to adjourn is now in order.

Motion carried.

Mr. Edwards—I move that this address be referred to the committee to report on.

Mrs. Campbell—I move to amend the motion by saying that this address of our president shall be referred to the respective committees to which it refers. Seconded.

Motion is carried.

President—Next topic upon our program is the Report of our Secretary.

REPORT OF THE SECRETARY, A. J. PHILIPS.

Members of the State Horticultural Society:

In presenting this, my fifth annual report, will say: In looking it carefully over I find I cannot improve on what I said in my last year's report up to the middle of page 88. Please read that over carefully before reading this report of 1898 and '99, as it contains my best thoughts and suggestions relative to the welfare of our society and horticulture in our state. I am fully satisfied we write too much, we read too much, we plant too many varieties, we find too much fault. We must, to get the best results, condense our words, our thoughts and our works—and we will reap better results. The great orchardist of the world, Fred Wellhouse, of Kansas, though he has planted 1,640 acres of apple trees told me in a conversation at Omaha that in his large operations he has settled right down to five varieties of apples, and has planted no more for twelve years past of those that he found to be productive, good, salable and money makers; a great contrast with some of our northern growers who boast of showing one hundred varieties of apples. I tried to condense and boil down our last report, and am happy to say I have received more compliments on it than any I have ever issued. Only one real criticism and that a friendly one from an old settler in southern Wisconsin, who said, "I see you say on page 88 that you have no report in your library that dates back of 1871. Now," he says, "I have the reports that were published in the Wisconsin Farmer of the meetings of the State Horticultural Society for the years '63, '64, '65 and '66, and must say they are to me as useful and interesting reading as those I find in your report of 1898." Quite complimentary to Prof. Bailey and the rest of us who have been trying to learn all these years. This criticism ought to help us as it is a gentle hint that we must condense, and try with renewed energy to do better work. It led me to ask myself the question, What advancement have we made during the nearly thirty years that I have been a member of the society? Have we been of any benefit to our state, or has the state been of any benefit to us? I answered, Yes, surely. At

first we had only a name and a few earnest workers. Some of those are gone but their works do follow them. Some of them are with us still as this meeting has demonstrated, as ready and willing as in the days of yore to give us the benefits of their experience. Now we have a society that is wielding an influence, and though some of our sister states greatly outnumber us in membership we must console ourselves and show the world that it is true that what we lack in numbers we make up in quality. Our annual reports are sought for and read in many other states. Calls are coming from various institutions of learning for full sets of our reports and we fill them as far as we are able, some years being exhausted. We now have a professor of horticulture in our state university. We have a fine horticultural building, where the principles of our chosen profession are taught to young men of our own beloved state, and this winter young men from seventeen different states are among our students. We now have a liberal state appropriation to carry on our work. We have a state Experiment Station, where all, whether they pay taxes or not, can learn valuable lessons by visiting the station or asking for the reports and bulletins of the same. We have been enabled by the liberality of our legislature to establish, plant and maintain a trial orchard in township 29 in Marathon county, to test the hardiness and productiveness of fruit trees so that planters can have a chance to obtain information to guide them in selecting varieties and prevent their being swindled by dishonest tree peddlers, showing that our money is invested and our efforts directed in the right direction or benefiting the farmers of Wisconsin, especially in the northern part. By the efforts of the members of our society and other fruit growers in Wisconsin we were enabled to make a creditable show of apples at Philadelphia in 1876, a fine show at New Orleans, and a splendid show at the great World's Fair in Chicago in 1893, and a wonderful show at Omaha in 1898. This show was largely made up of seedlings produced in our own state, and I can do no better here than to use the superintendent of the exhibition, Professor Taylor's own language, when he said to me in writing: "I do not think that during the time your exhibit was there any single exhibit attracted more attention or favorable comment than the

one from your state." So I cannot but think that we must report progress, and right here I will say when contemplating making that exhibit last winter the governor of our state advised us to go ahead and make it even if we were obliged to borrow to do it, which we did, saying he had no doubt if we made a good show that the legislature would make an appropriation this winter to reimburse us, and it is now a suitable time for our legislative committee to take action in this matter. From correspondence I have received and conversations I have had I am satisfied we ought to furnish the trees for at least two more trial orchards in northern Wisconsin, to be run on a somewhat cheaper plan. Owing to the fact that our new State Board of Agriculture started in to hold a fair last fall with but little funds, the premiums were so small that many did not exhibit fruit, and some that did show went home dissatisfied. But the show was quite good, and President True has assured us that the premiums will be increased next year. Our summer meeting at Appleton was well attended, profitable and interesting. The noted writer, Eben E. Rexford, was in attendance, also Uncle Dart of Minnesota, Chas. A. Dolton and Jonathan Perriam of Illinois, all of whom helped to make the meeting a success. To the citizens of Appleton, to the trustees of the Congregational church, and to the local society of Omro, we were much indebted for the large attendance, the interesting sessions and the beautiful and commodious place to hold our meetings. For two future summer meetings I recommend some place in eastern or southern Wisconsin, whichever place offers the best inducements for 1899, and if the orchard does well and a sufficient interest can be worked up with the citizens of Wausau I am in favor of holding the summer meeting there in the year 1900, so all who attend can visit and look over the trees and fruit in the trial orchard and the society have a chance to know more about it.

Last June I received notice from the superintendent of public property that our library room had been assigned for other purposes, so I had to move the books. I found a place for them in the room occupied by the State Board of Agriculture, where through the kindness of Capt. Chase they are carefully cared for. We had quite a surplus of several years back and as they con-

tained valuable information and cost the state money to print them, rather than to have them destroyed Mr. Chase has been packing them and sending them to institutes in northern Wisconsin. We have not near volumes enough to satisfy the calls for them at the institutes, and as the paper covers are so undesirable I think we should ask the legislature to give us our whole quota bound in cloth as it would not increase the cost very much.

In conclusion I will say, that I can not so far see why the managers of the Western Passenger Association have made such rigid rules in regard to our certificates in Wisconsin, while for western points they have made an open rate of one fare and a third to public gatherings and do not even require certificates. The Wisconsin cheese makers, an association run for the sole purpose of increasing the output of cheese from the state and to educate the makers to manufacture a better article—a commodity which the railroads would be paid for carrying—went home disgusted. They were obliged to pay an agent \$6.00 to stamp and deliver their certificates. They failed to get the required 100, and were obliged to pay full fare home, or as some of them proposed to walk, and lose \$6.00 besides. Many of them said they would do all they could to secure the two-cent rate on all the leading roads. Neither can I see why our society, which is working to increase the amount of fruit to be shipped on the railroads in and out of the state, should be required to pay this same \$6.00, which we have done, and then run the risk of losing it and besides paying full fare for our members and delegates home if we fail to have the one hundred in attendance. Many of our members have written me they are disgusted with the arrangement and that they will do all in their power to secure the passage of the two-cent-a-mile fare.

The following is the financial statement of the secretary's office:

Secretary's salary	\$300.00
Miscellaneous expenses	49.43
Printing	22.50
Postage	46.00
Stationery	11.45

Express	\$13.90
Freight	15.41
Telegrams	1.95
	<hr/>
	\$460.64

February 6, 1899.

Received on salary	\$300.00
Received miscellaneous ex.....	160.64
	<hr/>
	\$460.64

Thursday P. M.

Professor N. E. Hansen, of the South Dakota Agricultural College, called for.

Professor Hansen referred to the work of the Interstate Committee which met at La Crosse last fall to classify the Russian apples. The present confused system of nomenclature of the Russian apples was mentioned, and the need of uniformity illustrated by several examples. The Charlamoff comes in after the Duchess and is a better eating apple. There are now two distinct varieties under this name, No. 262 and Charlamoff as grown by Tuttle and Mitchell. The latter is too near the Duchess to be of much value; it has now been named Schroeder's Charlamoff. No. 262, called Peterson's Charlamoff in Minnesota, is now named Charlamoff. The Anisim is grown under several names in Wisconsin, Iowa and Minnesota; if all these are not identical we can not tell them apart. Now, we have concluded to give the name Anisim to all these. A description has been adopted for each variety. We want to bring order out of chaos. No recommendations are made as to varieties, as that must be left to each local society.

President—Is there any action you wish to take in regard to this report?

Professor Goff—I move that the society adopt this report of the Russian Apple Nomenclature Commission at this convention.

Motion is carried.

The report is as follows:

REPORT OF THE FIRST MEETING OF THE RUSSIAN
APPLE NOMENCLATURE COMMISSION.

(Meeting held at La Crosse, Wis., Aug. 30-31, 1898.)

CLARENCE WEDGE, President, Albert Lea, Minnesota.

N. E. HANSEN, Secretary, Brookings, South Dakota.

It is well known to fruit men that the nomenclature of Russian apples imported into the Northwest is much mixed. There are various reasons for this confusion. The cions as originally imported were in many cases mixed, and in Russia itself the nomenclature has not yet been fully worked out for all parts of the fruit-growing sections. To this must be added errors in handling such an immense list of varieties in this country. Also the fact that among the great number of Russian apples are found well-defined groups or families. By this is meant that some varieties so closely resemble each other as to be nearly or quite identical. Slight differences may be apparent in season, quality, size and appearance of fruit, and in habit and other characteristics of tree, but for all practical purposes they are too nearly the same to warrant more than one representative of the group being put into general cultivation. To cut down the list would greatly simplify matters pomological, and the need of it has been long felt.

In order to make a beginning in this work the State Horticultural Societies of Minnesota, Iowa, Wisconsin and South Dakota appointed a Commission, which met in the annex of Hotel Espersen, La Crosse, Wis., August 30 and 31, 1898. Wisconsin was represented by A. G. Tuttle, of Baraboo, Prof. E. S. Goff, of the State University at Madison, and by A. J. Philips, Secretary of the State Horticultural Society, West Salem. Iowa was represented by J. B. Mitchell, of Cresco, C. G. Patten, of Charles City, and J. Sexton, of Ames. Prof. J. L. Budd, of the Iowa Agricultural College, the highest authority on Russian fruits, was represented by Mr. J. Sexton, who has been his chief assistant for the past twenty-three years. Minnesota was represented by J. S. Harris, of La Crescent, Prof. S. B. Green, of the University of Minnesota, and Clarence Wedge, of Albert

Lea. South Dakota was represented by Prof. N. E. Hansen, of the State Agricultural College, at Brookings.

All the members were present except Professor Goff, who was unavoidably detained from attending the meeting. The Commission was called to order Tuesday morning, August 30. Upon unanimous motion Mr. A. G. Tuttle, the senior member of the Commission, was elected temporary President. Mr. Tuttle thanked the members for the honor conferred, but stated that his eighty-three years ought to excuse him from the heavier duties of the meeting. The Commission adjourned to the Inter-State Fair at the La Crosse Fair grounds to inspect Mr. Tuttle's large collection of Russian apples. Upon returning, the work of unpacking sample apples brought by the various members was completed and the Commission was ready for work.

Clarence Wedge was elected President and N. E. Hansen, Secretary. Mr. Wedge thanked for the honor conferred and said that our object is to find out our agreements rather than our differences; to correct the nomenclature rather than to get at their value as varieties.

The following resolution was unanimously adopted as a preamble to the groups or families of apples brought under consideration:

"The varieties here grouped as members of the same families, while in a few cases differing somewhat in characteristics of tree, are so nearly identical in fruit that for exhibition and commercial purposes they are practically the same and should be so considered."

In the following lists the word "spurious" indicates that the name preceding it properly belongs to another variety with which it has been mixed. The word "group" or "type" may be used if preferred for the word "family." The descriptions adopted serve to fix the varieties which have attracted special attention in part or all of the region represented by the Commission. No attempt was made to make a complete report on all the Russian apples. The numbers indicating size of fruit are according to the scale adopted by the American Pomological Society.

In the following lists the heading of each group is the name adopted as the official name for the group.

All varieties sent out from different sources are included to

help locate errors and duplicates. The season given is that on the north boundary of Iowa.

THE HIBERNAL GROUP.

Hibernal, No. 378; Lieby or Recumbent, 240; Yellow Arcadian, 327; Juicy Burr, 544 (spurious); Romenskoe, 599 (spurious); Silken Leaf, 75 M.; Recumbent, 41 M.; Zuzoff (spurious); Pendent Ear; Omensk (spurious); Romna (spurious); Ostrakoff, United States Department (spurious).

DESCRIPTION: *Hibernal*—Size, 5; form, oblate; color, yellowish green, stripes and splashes of pale red, many white dots; cavity, medium narrow, deep, russeted extending over base; stem, medium; basin, broad, medium deep, corrugated; calyx, half open; flesh, yellowish green, medium fine; flavor, sour; season, early winter; origin, Russia.

C. G. Patten: I find that Pendant Ear is not one-tenth the value of Hibernal with me, because it does not bear, and yet the fruit is the same.

DUCHESS GROUP.

Duchess; Duchess of Oldenburg; Oldenburg; Arabian, 184; Borovinka; 245; White Krim; Anisette, 185; Glass Green.

DESCRIPTION: *Duchess*—Size, 6; form, roundish oblate; color, greenish yellow with red stripes; cavity, regular, medium deep, narrow, light russeted; stem, medium; basin, broad, corrugated; calyx, half open; flesh, light yellow, rather coarse; core, medium, closed; flavor, rather sharp acid; season, August; origin, Russia; tree, medium upright.

A. G. Tuttle: My Glass Green colors up more than Duchess, and keeps its flavor longer than Duchess after coloring. It is a better apple in my experience to grow than Duchess. Of late years I have set Glass Green instead of Duchess, as it is a better tree, and more valuable because keeping its quality longer after coloring.

C. G. Patten: The Anisovka I got from Dr. Regel is distinctly of the Anis family and of very upright habit. Peterson of Wauconia and Reeves of Waverly say that Borovinka is better than Duchess.

S. B. Green: That is J. M. Underwood's opinion.

C. Wedge: Mr. Peterson said his Borovinka was a better keeper, but his Duchess were old decrepit trees, while his Borovinka were young trees.

LONGFIELD GROUP.

Longfield, 161; 57 M.; English Pippin, 587; Good Peasant (spurious); 387 (spurious).

DESCRIPTION: *Longfield*—Size, 4 to 5; form, roundish conical; color, shady side yellow with greenish bloom, sunny side yellow and red with

small gray dots in skin; cavity, deep, smooth; stem, long; basin, flat, ribbed; calyx, half open; core, closed; flesh, white, fine grained; flavor, slightly sub-acid, aromatic; season, November to January; origin, Russia; tree, strong, spreading, drooping grower, grayish woolly leaves and shoots.

J. Sexton: No. 31 M is the true Good Peasant as received by Professor Budd direct from Moscow, but some Anisim cions were mixed with it, and the No. 387 spurious was simply mistaken for No. 587. We find 31 M hardier than Longfield and a good bearer.

A. G. Tuttle: I have 300 Longfield in orchard, and think it hardier than Duchess and that it will bear more abuse than any tree I know of, not excepting Hibernial. Longfield is a great annual bearer, a good table apple, and the leaf never scabs.

CHARLAMOFF GROUP.

Charlamoff, 262; Peterson's Charlamoff; Champanskoe; Pointed Pipka, 361; Champagne, 112 M. This Charlamoff is entirely distinct from the Charlamoff as grown by J. B. Mitchell and A. G. Tuttle, which is a flat apple of upright habit of tree, and not as valuable as many more of the same season. The Charlamoff of Mitchell and Tuttle it was decided to name Schroeder's Charlamoff. In other words, two varieties have been imported under the name Charlamoff, and this name is now given to the better one of the two.

DESCRIPTION: *Charlamoff*—Size, 5 to 6; form, oblong conical; color, greenish yellow striped and splashed with red; cavity, medium deep, often with large lobes; stem, medium slender, basin, deep wrinkled; calyx, nearly closed; flesh, greenish white, tender; flavor, pleasant, vinous acid; season, September; origin, Russia; tree, strong, regular, spreading grower, thick topped; the whole tree has a distinct yellowish green aspect; leaves, large, lightish green with many red veins.

S. B. Green: The Charlamoff grown by Andrew Peterson, of Wauconia, Minn., and hence called Peterson's Charlamoff, is generally a little later than Duchess; tree a spreading grower, with foliage and bark lighter than Duchess; flavor, a mild sub-acid.

J. S. Harris: I do not think this variety is quite as hardy as Duchess. The Charlamoff of Tuttle is a flat apple, with upright habit of tree, and is too near Duchess to be of special value.

A. G. Tuttle: My Charlamoff is not as valuable as many more of the same season, yet I would put it in my list of the best fifty varieties.

N. E. Hansen: In European nurseries Charlamofsky is a synonym of Duchess.

J. B. Mitchell: I would put Tuttle's Charlamoff in my list of the best sixteen varieties.

C. G. Patten: Peterson's Charlamoff I find makes a large, spreading tree, and bears reasonably young.

S. B. Green: It might avoid confusion to name Peterson's Charlamoff Champagne.

ROMNA GROUP.

Romna, 599; Romenskoe. The large, round, green winter apple as grown by Mr. Tuttle, of Wisconsin, under the name of Romenskoe, will hereafter be known as the true Romna. This settles the matter definitely, as Hiberna has been mixed with Romna as originally sent out from Russia.

DESCRIPTION: *Romna*—Size, 6; form, smooth, round conical, very regular; color, dark green with brownish red on sun side, covered with grayish bloom, thickly sprinkled with large grayish dots; cavity, acute, deep, regular; stem, medium and stout, often knobbed; basin, shallow, narrow, wrinkled; calyx, closed; flesh, white, fine grained; flavor, mild, pleasant acid; season, late winter and spring; tree, spreading, irregular, dwarf.

A. G. Tuttle: Romna is a good apple, but not one of the first dozen varieties that I would plant. It keeps till April or May, but does not get good until April. Tree has an irregular top and is a slow grower.

C. G. Patten: I regard Romna as the most valuable of all the Russians from which to grow seedlings with the hope of getting winter varieties.

J. Sexton: Romna is a fine apple. The tree is spreading and has the largest leaf of any that we have.

CROSS GROUP.

413 Department. The name Cross was adopted as the official name of the No. 413 of the United States Department, which has also been disseminated under the name of Large Anis. It is distinct from Cross 15 M, 8 M, Skrischapel and Cross Vor, the synonymy of which was not taken up.

DESCRIPTION: *Cross*—(No. 413 Dept.)—Size, 5; form, oblate conical; color, greenish yellow, nearly covered with a light carmine, dotted with green specks, with distinct bloom; cavity, green, broad, deep; stem, medium; basin, well defined, nearly smooth; calyx, large, closed; flesh, light yellow; flavor, slightly sub-acid; season, October to December; origin, Russia; tree very spreading, medium grower, wood, grayish.

A. G. Tuttle: No. 413 Dept. does not blight a particle with me. Chas.

Gibb sent me the clons. Mr. Gibb visited me once and looked through my collection. He said I had nearly everything, but should have one or two more, so he sent me Cross and Grandmother.

CHRISTMAS GROUP.

No. 310. The variety grown under the number 310 by Mitchell, Peterson, Green and others, was decided to be the true Christmas.

DESCRIPTION: *Christmas*—Size, 11; form, round, conical, often oblique and slightly angular; color, yellow with red stripes at base and deep clear red towards the eye; cavity, medium, rather narrow; stem, medium; calyx, closed on a flush wrinkled or narrow ribbed surface; flesh, white, fine grained; flavor, pleasant acid; season, December; origin, Russia.

ANTONOVKA GROUP.

Antonovka, 16 M and 236; No. 224; Vargul, 277; German Calville, 324 (spurious); Russian Gravenstein, 105; Bergamot, 424.

DESCRIPTION: *Antonovka*—Size, 6 to 7; form, roundish, angular, flattened at the ends; color, straw yellow, with dots that give the skin a rough appearance; cavity, narrow, ridged, deep, russeted; stem, medium short; basin, medium deep, ridged; calyx, closed; flesh, yellow, nearly fine; core, nearly closed; flavor, pleasant, acid; season, October; origin, Russia.

J. Sexton: All the above appear alike to me, except No. 105, which is different in tree.

A. G. Tuttle: I do not think there is any difference in them.

J. B. Mitchell: I find Vargul, Bergamot and German Calville more valuable than Antonovka, although very similar.

ANISIM GROUP.

Anisim; 14 M and 18 M of Budd; Zuzoff of Tuttle; Good Peasant of Patten; Borsdorfer of Wragg; Peterson's Anisim; Swedish Borsdorf of Patten. This variety is proving very valuable in Minnesota and other parts of the Northwest, and has been grown in Wisconsin, Iowa and Minnesota under several different names as originally imported from Russia, but which now all give way to the name Anisim.

DESCRIPTION: *Anisim*—Size, $4\frac{1}{2}$; form, roundish, inclining to conical; color, greenish ground nearly covered with a very dark red, with a bluish bloom with minute whitish dots; cavity, medium, slightly

russeted, acute; stem, short, medium; basin, small, wrinkled, shallow; calyx, closed; flesh, white, fine grained, juicy; flavor, pleasant sub-acid; season, November to January; origin, Russia; tree, a prodigious bearer; young trees upright, spreading with age; limbs, long, slender, with a very strong shoulder; leaves, narrow, pointed, dark green.

N. E. Hansen: At the agricultural fair at Kiev, Russia, last fall, I saw the true Anisim exhibited under a Russian name meaning "Beauty." I met some of the leading Russian pomologists, who are endeavoring to correct the nomenclature of their apples.

A. G. Tuttle: I find the trees of the true Anisim are strongly shouldered, similar to those of my Rawle's Janet before they winter-killed. Anisim is one of the very best nursery trees grown.

C. Wedge: The shoulder in the Anisim limbs is very characteristic.

GOLDEN WHITE GROUP.

Large Long White, 979, of Tuttle and Mitchell; Golden White, 978, of Tuttle and Mitchell; White Russet, 981, of Tuttle and Mitchell; No. 4, Orel, of Budd; No. 5, Orel, of Budd; No. 56, Vor (spurious); Winter Stripe; Tuenarius 15, Department of Patten. The name does not describe the apple, but is adopted until the true name can be ascertained.

DESCRIPTION: *Golden White* (Nos. 978, 979, 981)—Size 5 to 6; form, roundish, slightly angular; color, light yellow, striped and splashed with red; dots, white; cavity, wide, regular; stem, short to medium; basin, shallow, slightly corrugated; calyx, half open; flesh, yellowish white; flavor, sub-acid; season, fall; origin, Russia; tree, irregular grower.

J. B. Mitchell: Nos. 978, 979 and 981 are all alike; the buds are very prominent, thick and woolly. I quit propagating the trees, but people who had bought trees kept coming to me for more, so I began again two years ago.

J. Sexton: No. 4 Orel and 5 Orel are like Mallett 980 in leaf and like the above three in fruit.

A. G. Tuttle: In my neighborhood Golden White is a very good apple.

REPKA MALENKA GROUP.

Repka Malenka 410; Little Seedling; Green Sweet 169 (spurious).

DESCRIPTION: *Repka Malenka*—Size, 4; form, round, conical, angular; color, light green, striped with dull red; cavity, deep, russeted at the bottom; basin, narrow, abrupt, wrinkled; calyx, closed; flesh, greenish white, firm; flavor, mild, sub-acid; season, January to April; origin, Russia; tree, upright, symmetrical and of rather slow growth.

A. G. Tuttle: Repka Malenka with me bears early and keeps until apples come again. I find it is fully as good a keeper as Little Romanite and a much better apple in quality.

YELLOW SWEET GROUP.

Yellow Sweet; No. 321; Green Sweet of Patten.

DESCRIPTION: *Yellow Sweet*—Size, 5; form, oblate, roundish; color, greenish yellow with bronze blush on sun side; cavity, narrow, acute; stem short, medium; basin, broad, medium deep, slightly wrinkled; calyx, open; flavor, sweet, good; season, summer; origin, Russia; tree, slow, medium upright grower, free from blight, slow in coming into bearing.

C. G. Patten: This is one of the freest from blight and one of the hardiest that we have, and valuable, though a tardy bearer.

TRANSPARENT GROUP.

Yellow Transparent; No. 60; White Transparent; Red Duck (spurious); Charlottenthaler; Enthaler; Thaler; Erdbeer Streifling; Nitchner's Erdbeer.

DESCRIPTION: *Transparent*—Size, 5 to 6; form, round, conical; color, pale straw-yellow, skin showing slightly raised irregular gray dots; cavity, very broad, medium deep; stem, long, rather stout; basin, medium, wrinkled; calyx, open; core, medium, nearly closed; flesh, fine grained, nearly white; flavor, pleasant acid; season August 1st to 10th; origin, Russia; tree, upright, round topped.

A. G. Tuttle: I find this variety profitable for the earliest fancy market, shipped in small boxes.

ANIS GROUP.

Anis; No. 317; 984, Kursk Anis; Red Anis; 32 M; Russian Green; Blue Anis; Yellow Anis; Pink Anis; Striped Anis; Getman.

DESCRIPTION: *Anis*—Size, 4 to 5; form, roundish oblate, angular; color, light green, striped with red in sun; cavity, broad, deep; stem, short; basin, broad, irregular, angular; calyx, medium, closed; core, open; flesh, tender, juicy, greenish white, with dark green water line around core; flavor, agreeable mild acid; season, September and October; origin, Russia; tree, medium upright; fruit drops easily.

A. G. Tuttle: I move that all be discarded, owing to small size.

J. S. Harris: I second the motion. However, I think the Russian Green should be retained for very cold latitudes, as it is very hardy, and the tree is blight proof. For milder sections the Anis group is too small.

The following descriptions were adopted of other varieties that have attracted special attention in the Northwest:

LONG ARCADE.

DESCRIPTION: *Long Arcade*—Size, 2 to 5; form, oblate, a little angular; color, greenish yellow, overspread with dark red, numerous inconspicuous fine white dots; cavity, medium broad, acute, russeted; stem, medium long, slender; basin, shallow, broad, wrinkled; calyx, medium open; flesh, white, coarse; flavor, mild, sub-acid; season, August to September; tree, very upright, spreading with age.

BODE.

DESCRIPTION: *Bode*—Size, 4; form, oblate, slightly oblique, a trifle angular; color, greenish white, cavity russeted often over-running light dots; cavity, rather small, medium deep; stem, short; basin, broad, medium deep, wrinkled, wavy; calyx, half open, erect; flesh, white, firm, medium fine; flavor, acid; season, summer.

LUBSK QUEEN.

DESCRIPTION: *Lubsk Queen*—Size, medium to large; form, rather round, flattened at the ends; color, polished waxy white, with bright blush on sun side with numerous fine, irregular gray dots showing through the skin (a beautiful fruit); cavity, smooth, regular, greenish; stem, medium long; basin, broad, much wrinkled; calyx, closed; flesh, nearly white; flavor, pleasant acid; season, August and September; tree, medium upright, good grower; origin, Russia. Not the Lubsk Queen of Tuttle, which is much like the White Pigeon.

LOWLAND RASPBERRY.

DESCRIPTION: *Lowland Raspberry*—Size, 6; form, round conical; color, orange yellow, striped, splashed and shaded with red, showing gray dots through the color; cavity, medium broad, rather deep; stem, medium; basin, small, wrinkled; calyx, closed or half open; flesh, light yellow, often stained with red, fine, tender, juicy; core, medium open; flavor, sub-acid, good; season, August (as early as Transparent); tree, medium upright, round topped, excellent; origin, Russia.

A. G. Tuttle: There is no early apple east or west of better quality than Lowland Raspberry. The tree is perfect and a good bearer, and the fruit is handsomely colored.

OSTRAKOFF.

DESCRIPTION: *Ostrakoff* (4 M)—Size, 5; form, round; color, yellowish green, shaded brown on sun side, many grayish spots, often covered

with blackish fungus spots; cavity, medium; stem, long, thin; basin, shallow, wrinkled; calyx, half open; flesh, yellowish, white, fine; flavor, sub-acid; season, early winter; origin, Russia; tree, a vigorous grower, subject to blight, does best on high limestone and clay soils.

VARGULEK.

DESCRIPTION: *Vargulek* (12 M)—Size, 5 to 7; form, round, conical; color, straw yellow with splashes of red on sun side; cavity, regular, medium deep; stem, medium long; basin, medium deep, wrinkled, abrupt; calyx, closed; core, small, closed; flesh, fine, white, tough, corky; flavor, pleasant acid; season, September 1st; origin, Russia; tree very upright, moderately vigorous, inclined to blight.

C. Wedge: Clemens and Kinne, of Storm Lake, Iowa, think well of this variety; season, September; the tree is very upright.

J. S. Harris: I do not think it of any value as the tree is inclined to blight.

C. G. Patten: Vargulek is a good tree, but the fruit drops badly.

SWEET LONGFIELD.

DESCRIPTION: *Sweet Longfield*—Size, 5; form, oblong, somewhat oblique; color, yellow with blush on sun side, dark dots; cavity, angular, broad, deep, russeted; stem, medium; basin, narrow, shallow, corrugated; calyx, closed; flesh, fine grained; flavor, sweet; season, early autumn; origin, Russia.

J. Sexton: Sweet Longfield we find is a hardy tree and a good bearer. It is a good sweet apple, and worthy of cultivation. The tree is rather spreading, does not resemble Longfield, and the foliage heavier than that of Longfield. It is the name now given to it instead of Kursk Reinette (20 M).

BEAUTIFUL ARCADE.

DESCRIPTION: *Beautiful Arcade*—Size, 6; form, oblong conical, angular; color, light yellow, clouded and splashed with red, often with surface roughened by raised dots; cavity, wide, deep, furrowed; stem, long; basin, shallow, rather abrupt, wrinkled; calyx, half open; flesh, dry, tender; flavor, good, sweet; season, August; origin, Russia; tree, irregular, spreading, open, good grower.

A. G. Tuttle: Beautiful Arcade blights a little on young trees, but not on old trees.

C. G. Patten: It shows much blight with me.

J. Sexton: It blights some at Ames.

ZUZOFF.

DESCRIPTION: *Zuzoff*—Winter Zuzoff of Tuttle—Size, 8 to 9; form, round-oblata, rather angular; color, greenish, nearly or quite over-

spread with dark red with many white dots; cavity, broad, medium deep; stem, short, stout; basin, narrow, abrupt; calyx, small, closed; core, closed, small; flavor, sub-acid; season, winter; tree, upright, good grower, tardy bearer.

ARABSKOE.

DESCRIPTION: *Arabskoe*—Arabskoe of Tuttle—Size, .6; form, round; color, green, overspread with dull purplish red, numerous white dots; cavity, small, deep; stem, short, stout; basin, broad, shallow, wrinkled, strongly pubescent; calyx, closed, small; flesh, white, coarse, loose; flavor, acid; season, winter; origin, Russia; tree blights badly with Mr. Patten.

SWITZER.

A. G. Tuttle and C. G. Patten reported that their trees had blighted to death. It appeared that, while esteemed by many growers in the East, it was too subject to blight in the Northwest. It was thought that Switzer should be struck off the list recommended by the American Pomological Society for planting in the Northwest, and this opinion was ordered sent to the society for action at the next meeting.

A WISCONSIN LIST.

A. G. Tuttle named the following as the best six of those he has tested, the varieties being in the order of their value: Longfield (a great annual bearer), Anisim, Antonovka, Beautiful Arcade (for sweet), Lowland Raspberry (for best early quality), Repka Malenka (for late keeping).

A MINNESOTA LIST.

The Minnesota State Horticultural Society varies this list. At their December meeting only three varieties were recommended for general cultivation, Duchess, Hibernial and Charlamoff, with Anisim, Longfield, Christmas, Yellow Sweet, Cross and Repka Malenka for further trial.

The general consensus of opinion of the Commission tended strongly in favor of a short list, especially Hibernial, Duchess, Charlamoff, Anisim, Yellow Sweet, Repka Malenka, Longfield, Cross and Christmas. This will simplify matters for the average planter,

Meanwhile a host of seedlings have arisen all over Wisconsin, Minnesota and Iowa since the hard winter of 1884-85, and are attracting favorable attention, and it will take another winter such as that of 1872-73 and 1884-85 to weed out the list and test their true hardiness as compared with imported varieties. This will clear the horticultural atmosphere and make the task of the fruit grower an easier one, in the matter of choosing varieties both native and imported.

The Commission, on motion, adjourned subject to call.

THE AIM OF THE COMMISSION.

The work of the Commission was not to recommend varieties for any particular locality, as that must be left to the state and local horticultural societies, but to revise and simplify the nomenclature of the varieties that have come into chief prominence in various parts of the Northwest. As opportunity permits the work of revision will be continued.

N. E. Hansen,
Secretary.

President—If you have any questions to ask Professor Hansen, now is your opportunity.

Professor Hansen—In reply to the question as to the best method of originating a hardy winter apple, I would suggest saving every seed of Repka Malenka and other hardy long keepers. I think we have worked long enough with seedlings of Duchess; none of them appear to be the long keeper that is needed. Promising lines of work are first: Crossing the hardest Russians that show evidence of keeping capacity. Second: Crossing the choicest winter American varieties with the hardest late Russians. The latter is the more promising method.

Mr. Hatch—In regard to producing hybrid apples, Mr. Tuttle knows a great deal about that. We had fifty varieties at one time of Hybrid Siberian apples and when it came to grow them I was disappointed. They were subject to apple scab and were short keeping. We have not developed anything by crossing apples that was at all satisfactory. We have trod the ground thoroughly for thirty years.

Mr. Underwood—Have you trod that ground systematically? I understand Professor Hansen to propose that we experiment along systematic lines and not along chance lines.

Mr. Hatch—What can we do different from what we have done?

Professor Hansen—In crossing apples we want to get something else besides Siberians. Siberian blood gives us short keepers and strong tendency to blight. I repeat, save every seed of Repka Malenka and other long keeping Russians that Mr. Tuttle recommends. In mixed orchards the busy little bees will do the work of crossing and take their pay in honey. This, however, may give us some undesirable combinations, but the method is inexpensive. Second, cross the hardier of the late Russians, such as Hibernial, Repka Malenka and Romna, with the choicest and longest keeping of the hardier American varieties. A cross of Hibernial with Jonathan or Grimes Golden ought to give us hardiness combined with good quality, and a cross of Repka Malenka or Romna with Ben Davis or Willow Twig ought to give us good size, color and long keeping capacity. Perhaps Repka Malenka crossed with any of the large red winter American apples of good quality would give us the desired seedling. It will be wise to leave out all summer and early fall varieties in our endeavor to originate long keepers. Our native crab is not very promising as it is subject to scab and sunscald in open exposure and is not as hardy as some of the hardest cultivated varieties, still attention should be given it also as results cannot be predicted with certainty. It is not found native in South Dakota save in the southeast corner.

A Member—You spoke of the Xanthocarpus raspberry.

Professor Hansen—It has endured several winters uninjured at St. Petersburg, Russia.

Mr. Reed—In regard to the vegetable seeds gathered on your trip. How did you obtain them?

Professor Hansen—Mostly from the growers themselves. Some vegetable and melon seeds were obtained from a leading Russian seed firm in Moscow and some melon seeds from a melon specialist in southern Russia. At Kuldja, in western part of Chinese Turkestan, I found a Dungan or Chinese Mohammedan

market gardener and obtained a collection from him. In Bokhara and Russian Turkestan seeds were saved from several hundred melons bought in the native bazaars; much seed dried in the flesh in native fashion was also purchased.

Mr. Reed—What is the object in picking up seeds in a country that is nearly barbarian?

Professor Hansen—The chief object of the trip was to secure seeds from very dry regions for trial in our western semi-arid sections. Bokhara was formerly one of the chief centers of Mohammedan civilization, and even now in Bokhara and Samarcand there are many colleges. Nothing, however, of modern science appears to be taught in these. In reply to Mr. Reed's question will say that I found nothing especially valuable in onion seeds. To illustrate the primitive condition of the country east of the Caspian sea, will say that in all Russian Turkestan, a country with an area of over 257,000 square miles, there is but one fanning mill.

PLUMS THE PAST SEASON AT THE EXPERIMENT STATION, UNIVERSITY OF WISCONSIN.

Frederic Cranefield.

[Paper read at the Annual Meeting.]

The bountiful crop of plums in the Station orchard last season furnished an excellent opportunity for a comparison of varieties and species. Nearly all of the native varieties in the orchard, of bearing age, bore a heavy crop and in addition to this many European and Japanese varieties fruited. We were able to enjoy plums from the last week of July, when Red June and Strawberry began to ripen, until November, when a few fruits of a tardy seedling were still to be found.

I will speak mainly of the native varieties, as it is generally conceded that these are the only ones that can be profitably grown in central Wisconsin. It is true that the foreign varieties fruited well here last year, but we cannot reasonably expect such mild winters as that of '97 and '98 every year.

The native plums of the U. S. comprise four species, viz.: *prunus Americana*, *p. Chicasa* or *angustifolia*, *p. hortulana* and *p. rivularis*. The last mentioned species, however, includes only a few varieties, indigenous to the extreme southern portion of the United States.

The varieties of *p. Americana* are probably most valuable to Wisconsin fruit growers, on account of their extreme hardiness. Certain *Chicasa* varieties have proved quite satisfactory here, but if hard winters should fall to our lot again the flower buds of these would probably perish.

A brief discussion of a few of the most promising varieties follows. It is in order here to say that these are merely individual opinions formed from observations made at the station orchard only. I have had no opportunity to observe cultivated varieties growing elsewhere. In any case, it is a futile effort to recommend a list for all growers, on account of the difference in climate and soils, as well as the difference in tastes. I realized this fully last summer. It was a dull day indeed when no discussion occurred between my co-worker, Mr. Moyle, and myself on the merits of some variety. In fact, we were both fully agreed on only one point, viz., that the fruit growers of the Northwest would have in the *Americana* plums the finest of stone fruits if it were not for what Mr. M. termed their "rhinoceros hide."

Among the varieties that fruited last year were the following:

AITKIN. The first *Americana* variety to ripen. The fruit is large, dark red and has a very thin skin with much astringency. It has been difficult to form any accurate judgment as to the productiveness of this variety, as we have but a single graft; judging from this I should not call it productive. It is very liable to attacks by the plum-pocket fungus, like all of the *Nigra* section. In my opinion, the chief point in its favor is its earliness.

CHENEY. This is not as early as Aitkin but in other respects resembles it closely, being equally susceptible to plum-pockets and attacks by curculio. Neither of these is high in quality.

FOREST GARDEN. An excellent plum; large, highly colored, flesh firm, juicy and sweet; as far as flavor is concerned all that

could be desired. The skin, however, is thick and tough and the tree is not very productive.

HAWKEYE. A large and showy plum but has the old-fashioned wild plum characteristics too well developed, that is, coarseness of flesh and astringency.

HOMESTEAD. Has many good points in color, texture and flavor, but is too small for a market variety.

LATE ROLLINGSTONE. Rollingstone in all particulars except in season.

LA DUC. A pretty little plum, extremely early, and above the average in quality. Our tree has borne a good crop every year for five years. This is a good variety for home use.

MANKATO. A very large late variety of considerable merit. Flesh firm and rich, resembling slightly the DOMESTICA in this respect. There is a story to the effect that this is a seedling of the German prune, but its undeniable Americana skin belies this.

MAQUOKETA. This has proved late, unproductive and poor in quality.

OCHEEDA. This is one of the best plums in our orchard. Large, finely colored, handsome; mid-season to late; flesh rich, with a thinner skin than most of the Americana varieties; very nearly free from astringency.

OWATONNA. Ripens earlier than Wyant and resembles it closely in size and shape; lacking in flavor.

PEACH. It is too bad that this plum is not a few sizes larger. In color it closely resembles a peach with abundant bloom; of good quality but much too small for market.

PIPER. Very large, productive, of good quality, an excellent market variety.

POTTAWATAMIE. An extremely productive variety belonging to the Chicasa section; thin skin, juicy and only fair quality; good for canning and jelly.

QUAKER. The best native plum that has fruited in our orchard; large, juicy and rich, with but slight astringency. The texture and flavor of this plum when fully ripe is not surpassed by that of any European variety.

ROBINSON. A Chicasa variety; very productive, fruit small

to medium, round, juicy but not rich; when fully ripe not unlike the Marianna in flavor, or rather in lack of flavor. It colors long before it ripens. Three different parties who used this plum for jelly, as well as other varieties, reported it better for this purpose than any other variety. The trees bore a very heavy crop and with the Pottawatamie were the most profitable trees in the orchard.

ROCKFORD. This, for some time, was taken as the standard for quality among native plums, but we now have several that are much better in quality; flesh firm; fair in quality; skin tough and astringent. The tree usually overbears. It is, however, a reliable bearer, our tree having borne a full crop every year since it arrived at bearing age.

ROLLINGSTONE. A very good plum; large; fine color; quality good; late and productive; a good market variety.

SMITH'S RED. Belongs to the Nigra section of the Americana species; resembles Aitkin and Cheney, which also belong here; later than either of these; has but little to recommend it.

SURPRISE. Has been very highly recommended; in fact has been called the best Americana plum. We have been favored with only a few fruits, so far, on our one graft and these were certainly not as good, in my opinion, as Quaker or Forest Garden. Its thin skin is its redeeming feature.

SPEER. A productive variety of fair quality but not large enough for a market variety.

WILD GOOSE. This well known hortulana variety surprised us last year by yielding a bountiful crop. It is very early; large, with a beautiful color, thin skin, juicy, but of only moderate quality. Its size and color, however, make it a valuable market variety.

WOLF. Our trees of this variety have never borne for some reason. The trees have made an excellent growth and appear healthy and vigorous, but have borne no fruit.

WYANT. This is probably as well known as any native plum. It is large, oblong and flattened; late and productive and above the average in quality, but not equal to Quaker, Forest Garden or Rollingstone.

This list comprises less than one-half of the native varieties

that fruited, but includes the best. All belong to the Americana species, except Maquoketa, Pottawatamie, Robinson, Wild Goose and probably Surprise. Of these Pottawatamie and Robinson are Chicasa; Maquoketa and Wild Goose are hortulana; and Surprise is probably a hybrid between Americana and Chicasa or hortulana. If I were able to produce a plum my ideal would be a fruit with the texture and flavor of Quaker and the skin and color of Wild Goose.

Owing to the favorable winter of '97 and '98 nearly all the domestica and triflora varieties in our orchard fruited abundantly last season. A brief discussion of these may be of interest.

It is difficult to imagine a more striking or beautiful sight in the line of fruit than presented by the Japan plum trees in the Station orchard last summer. The trees of these varieties are tall, vigorous growers, with "willowy" branches unless severely pruned. Ours had not been so cut back and many of the branches were borne to the ground with the weight of the fruit. The following Japan varieties fruited: Abundance, Bailey, Berkman's, Burbank, Maru, Normand, Red June, Strawberry and Wickson. All except the Strawberry are much larger than any of the natives; highly colored, as a rule, and with a thinner skin than the Americana varieties, but not thinner than that of the Chicasa varieties. As to quality, we have in this list, good, medium, indifferent, and poor. I have tasted no plum or peach of any variety that possesses the richness and high flavor of Berkman's. It is all that could be desired in a stone fruit.

ABUNDANCE seemed to me next in order, with MARU or Red June third. Strawberry is small, not larger than La Due and the earliest of the list. Red June is also early and high in quality. BURBANK is larger and earlier than Lombard but not as good. WILLARD is early but tough and tasteless. BAILEY is very late and may be classed with Abundance in quality. WICKSON is immense in size, one specimen measuring six inches in circumference; quality fair.

If the flower buds of the Japan varieties would endure our winters as well as those of our native varieties I am sure that they would entirely supersede the natives. As it is, however,

only amateurs and others who can afford to wait four or five years for a crop can afford to grow them.

Of the domestica class the following varieties fruited: Bradshaw, Frotheringham, Green Gage, Hungarian, Lombard, Orel No. 19, Orel No. 20, Orleans, Weineity, Yellow Dame Aubert and Moldavka.

BRADSHAW is the largest of all and a very good plum. FROTHERINGHAM is small, oblong, flattened, tough and somewhat lacking in flavor. GREEN GAGE and LOMBARD are both well known varieties. Our GREEN GAGE trees are now about eight years old and have borne three full crops in the last five years. In the intervening years, however, no fruit was borne.

The LOMBARD tree could not possibly have borne more fruit. Every available inch of fruiting wood was covered. I never realized until last year that the Lombard is such a poor plum.

ORLEANS is larger than Lombard and much like it in other points.

HUNGARIAN, OREL NO. 19, OREL NO. 20, YELLOW DAME AUBERT and MOLDAVKA, the two last named identical, are all European plums from the list imported by Prof. Budd. These are all large and showy, fairly productive, tough and unpalatable. Not one of the lot is equal to Wyant or Rollingsstone in quality.

President—Our next paper is along the same line, "Plum Growing at Sturgeon Bay," by Mr. A. L. Hatch.

Mr. Hatch—Our plums embrace three distinct kinds or classes. One is the European plum; of that class our largest plant was of about 1,500 trees, about two-thirds of which are Lombard. This embraces about one dozen varieties, and were set by recommendation of Mr. Willard of Geneva, N. Y., the greatest plum grower in the world. It is a safe variety to plant. The first planting was five years ago last spring of about 200 trees perhaps, and embraced not only some European varieties, but also some Japanese varieties. The Japanese were represented by three varieties. We planted a good share of these last season. Last spring I added several hundred trees of American plums, perhaps an acre of these, including DeSoto, Rollingsstone, Surprise, etc. I obtained the trees from our plum

crank, Mr. Lord. This will be in the nature of an experimental orchard. The Yellow Egg has been very productive, and compared favorably in fruit at the Omaha Exposition with those grown on the Pacific coast. The Japanese varieties gave us a splendid crop. The Abundance pleased me in quality, one of the nicest, finest fruits I ever saw. What time will develop in regard to plums no man knows, but at Sturgeon Bay, under the influence of the lake, we hope to make the raising of plums profitable. When we were at Omaha, Professor Goff and I went to see Mr. Willard. There is not a stick or stone to hinder cultivation. He had planted of every kind known. It is the greatest collection of plums I ever saw. He has cherries grafted on plums, and plums grafted on cherries. He has produced results that I guess are unparalleled. As to marketing, we had last year somewhere from 50, 75, or 100 bushels. The American varieties of plums, if properly understood, would place fruit, home grown fruit, within the reach of every farmer in the state. What the possibilities of crossing these varieties are, no man can tell. We are only at the threshold concerning these matters. I just want to give you one idea in regard to plums, and their culture. It is this: The American plums are wonderfully generous in bearing. They will over-crop. I have myself fruited trees to death. I have carried splendid crops on the same trees three or four years in succession.

Mr. Converse—What is the most successful method of thinning plums?

Mr. Plumb—Where the plum curculio is troublesome, always remove the stung fruits when they are the size of peas or marbles.

Mrs. Johnson—I would like to tell the convention what a gentleman from the state of Washington told me a few days ago. He thinned his fruit trees in the winter time by picking off the spurs.

A Member—Regarding this curculio business, I take an old iron kettle, half full of ashes, and put in some brimstone and once a week on a nice damp night I make a fire and set it under the trees. It does not injure the foliage, and kills the curculio. I sell my plums for \$4 and \$4.50.

Mr. Edwards—We are very much interested in this plum discussion, but I would like to have Prof. Goff or Mr. Hatch say what they would advise a farmer to plant—four or six of the best varieties.

Mr. Hatch—DeSoto, Rollingstone, Wolf, and Quaker.

Mr. Underwood—Do you mean to say that one variety is as good as any other?

Mr. Hatch—No, I do not. If you want a fine plum, and are willing to give it good care, take the DeSoto.

Prof. Goff—Mr. Hatch has spoken rightly, but I would add one variety, and that is the Wyant.

Mr. Toole—I would like to ask the Professor what to do for the black rot.

Prof. Goff—I wish I knew how to cure the black rot. It is sometimes very serious. We lost perhaps one-fourth of our Japanese plums. It is said spraying helps it. There is one thing that can be done and that is thinning the fruit. If the fruit does not touch each other you have a good chance of escaping the rot. If you want a cure or positive preventive, I do not know it.

Mr. Hatch's list:

Cheney, DeSoto, Rollingstone, Hawkeye, Wyant, Wolf, Forest Garden, Quaker, Aitken, Surprise, Rockford, Lombard, Monarch, Hudson R. P. Egg, Bradshaw, Gueii, Reine Claude, Pr. Wales, Field, German Prune, Yellow Egg, Pond Seedling, Peter's Gage, Abundance, Willard, Burbank.

Mr. Chapel—Here was Mr. Hatch speaking of the Abundance plum as being good; now, that plum is not worth anything in my locality, 13 1-2 miles south of here.

President—Cherries in Southern Wisconsin, by Mr. Henry Tarrant.

Mr. Tarrant—I commenced planting about 30 years ago, setting out the Morello, and had fine crops of these cherries. Up to a certain year the cherry trees all died but three, and that rather disgusted me on the cherry question. I had some Early Richmond trees and they died also, except some that I had grafted on the Morello. That tree did not die that year, but it is dead now. That was the best cherry tree I had, and bore many

cherries. I was rather disgusted with cherry culture, but I was advised to set out some more trees. I set some more out, and they are bearing still. I have some of the English Morello and they seem to do better. They were very full this year. We have also the Early Richmond on their own roots, and they are doing well.

Mr. Moyle called for.

Mr. Moyle—At home we have a good market for cherries, and I have been interested to note results. Among the Russian varieties we find many that are unique.

Mr. Guilford of Iowa called upon.

Mr. Guilford—Not being present and not knowing what has been said on this question, I may not follow the subject as I otherwise would, but I can talk on plums generally. DeSoto, the only fault with the DeSoto is when it is ripe it is ripe all over. In growing for family use, I would always have DeSoto, and even if you are growing for market always have DeSoto too, because there are so many intelligent ladies that will put up the DeSoto in preference to any other. Do not do any swindling in this direction, because they have a way of getting back at you. I will commence with the Forest Garden. It is large, and of good quality. Following that I will put in the Hawkeye. A well-grown Hawkeye is as large as the Lombard. The Hawkeye is, I suppose, the largest of the native plums. The Wyant is a remarkable plum. It is a free stone, dark red, and is so fleshy it will peel like a peach. The Wolf is a plum something like the Ben Davis apple. If you want to have great, big crops and big plums, and plenty of them, why, have the Wolf. It is almost a free-stone. Now, in regard to our late plums. We have not a reliable late plum. The Wolf will probably be late enough, the Minerva may be a little too late. It is obstinate about bearing, so we do not care much about it. It is an abominable thing to sucker. I do not advise anybody to plant anything that does not sucker. I have the Forest Garden on their own roots. It suckers first rate, and have a lot of young trees. The Mirianna. At our Experiment Station we have sixty varieties of plums that fruited last year. We have twenty varieties of crosses. The Rollingsone, originated by Mr. Lord

of Minnesota, is a better cooker than the DeSoto. The skin dissolves, and passes off in cooking. The flesh is green. It is not exactly a free-stone but very nearly. If you will stick to the five or six I have mentioned, you will have no trouble. Forest Garden, Hawkeye, Rollingsstone, Wolf and DeSoto. I have had the Wolf ripen with the DeSoto, and sometimes two weeks after the DeSoto.

Mr. Plumb—What about the Cheney?

Mr. Guilford—I plant Cheney largely. It probably will equal Wolf. Not as good quality as the Rollingsstone; the further south you take the Rollingsstone, the poorer the quality.

Mr. Plumb—Is it productive?

Mr. Guilford—Very. (Mr. Guilford here illustrates his mode of grafting, explaining same while cutting the wedge.)

Prof. Hansen—As a little observation along this line, I have tried with the apple. I started with 2-inch cion, increasing inch by inch. I had 5-inch cions and 2-inch root, and vice versa. The cions, some of them were 12 inches long and the root 12 inches long. That was an extreme.

Question—What is your best combination?

Professor Hansen—I think 7-inch cion and 2 or 3-inch root will do for the present.

Mr. Plumb—We have passes all through these stages of experiments of root grafting, and we find it depends upon the soil. After propagating entirely by budding, for the first twenty years, we learned to make the first root grafts.

Question—When do you cut your cions, Mr. Guilford?

Mr. Guilford—When the bud begins to swell.

Mr. Underwood—We graft plumbs a great deal, by the thousand, and always keep our cions in fall, and graft them on as early as we can in spring.

Mr. Hatch—How do you save your cions?

Mr. Underwood—Pack them in saw-dust. We do cut them in spring, when we have not enough saved. In this severe weather I would prefer to cut the cions in fall.

Professor Hansen—You can pack the cions in a box of leaves. We look them over three or four times during the winter, and if the cellar is too dry we sprinkle the leaves.

President—The next topic upon our program is eight five-minute papers on Best Five Winter Apples for Wisconsin. Opened by Mr. F. H. Chappell.

Mr. Chappell—I have been experimenting with many winter apples, and trying to find out what is the best for our climate. I will commence with the Louise for the first. It is of Canadian origin, highly recommended to me, and won great honors and praise in England. It is sometimes claimed to grow 12 inches around. It is a very firm, solid apple of pale green color, with occasionally a little blush on it. Now, again, I take the Dominion Winter. It is as hardy as the Duchess, and a Canada variety. It is a yellow apple of fine quality. Then, for our home Station here, not to go clear north, the Murphy's Blush, a great bearer, good keeper, better for cooking than eating until towards spring. Now, then, I will take for a sweet apple Custer's Golden Sweet. Then Dick's Seedling, larger than the snow apple. Tree rather crooked, and is inclined to bend in the nursery. Early to bear. This seems to be very hardy, and a very good bearer.

BEST FIVE SORTS OF LATE WINTER APPLES FOR WISCONSIN.

By F. C. Edwards.

Judging by the past the road to successful culture of late winter apples in Wisconsin has been lined with obstructionists. Some say obstructionists are a good thing, and possibly they fill a necessary place even in apple culture. "Every cloud has a silver lining," and obstructions on the road to getting things easy may whet our sense of appreciation. But the philosophical view does not seem to suit humanity. Our state, the same as all others, has locations especially adapted to tree and fruit production.

I do not consider apple culture a failure, if besides cost of tree, planting and care it pays a good living profit for ten or fifteen years and the tree dies, any more than I care to consider

it a failure to purchase a cow and counting cost, care, feed and stabling and returns for ten or fifteen years giving me a good living profit and the cow dies.

All animal and plant life are subject to death; it may be in youth, it must be with age. I believe if we use as much intelligence in apple culture on the clay upland soils of our state as we use to succeed in making the dairy cow pay, net profits would be as good. But a love of any labor is indispensable to success. All industries are like a boat; in this it depends upon her pilot, her sea worthiness and crew whether she ever reaches the port or not. I wish to discuss this from these standpoints or not at all.

Wisconsin must not and need not take a back seat on winter apples when her seedlings are admired and adopted by our neighboring states. They are good in color and size, and fair to good in quality, if we give thorough but not deep cultivation, always till August 1st to 10th and not later, and feed the soils moderately with natural manures and wood ashes. Such culture and feed as this bring about the best sanitary measures and are indispensable to success

The stems of the trees must be protected for the first ten years of its life continuously with flexible material.

Now, under the foregoing care given we can use varieties impossible to use without it. I would name in this order the five best varieties: N. W. Greening, Windsor Chief, Willow Twig, Tallman Sweet and Pewaukee.

N. W. Greening leads all late keeping winter apples at this time, and large and fine in appearance, and perhaps to Wisconsin is what the R. I. Greening is to New York. Ripens late and keeps late. Under proper care can be kept till the early apples of another season.

Windsor Chief seems to be to Wisconsin what the Baldwin is to New York, as it has the keeping qualities and size is fair to good. Fine producer.

Willow Twig has the lasting qualities, only fair in quality, good producer, and under protection hardy enough.

Tallman Sweet. The old standby for baking sweet apple, and many like it as an eating apple. It leads all others.

Pewaukee. Quality is good, fair size, and we find no trouble in carrying it through our winters till nearly spring in good order.

There are other seedlings and Russians pressing to the front but they are in the experimental stage—Avista, Malinda, Ripka and many others. One item sadly overlooked is the keeping all-winter varieties over the hot period after ripening till steady cold weather commences, about November 10th. This is by the use of a home-made room in connection with the ice house. After winter closes in they should be placed in the cellar and by ventilation kept from 5 to 8 degrees above freezing.

I have seen the N. W. Greening thoroughly mellow in December and January last year as a consequence of being exposed to the heat last fall and removed to a warm cellar, and under the other treatment I have seen them not fit to eat at this date. What applies to the N. W. Greening in regard to keeping belongs to all. Some so-called early winter sorts are under cool storage in fine order at this date. I know quite well there are no two persons in this house who will vote for the same five varieties for late winter keepers any more than there are any two that would pick out the same five men as the greatest statesmen in the United States. But we hope upon this question to get a consensus of opinion that will be of value upon this very important question, as late winter apples in Wisconsin are needed at this time more than any other fruit.

WINTER APPLES.

[Paper Read at the Annual Meeting.]

Mr. President, Ladies and Fellow Horticulturists:—

The question of winter apples just at this time is of MORE IMPORTANCE than ANY and ALL other QUESTIONS that can be brought before us. The health, happiness and prosperity of future generations depend largely upon the decisions of this society; our recommendations will influence the men who will this winter graft a million apple trees, and 25 years will not eradicate the errors we make.

Wisconsin has already introduced six or more valuable seedling winter apples, none of which are entirely satisfactory to even southern Wisconsin. Of these Avista, N. W. Greening, Windsor, Eureka and Newell are probably the best five. While Walbridge is valuable on good soil and with good culture in central Wisconsin it is not worth a cent an acre if neglected and on poor soil. Willow Twig is one of the best paying apples for southern Wisconsin. Murphy's Blush, Everbearing and Milwaukee are promising, while quite a large number of new varieties are valuable, and who is going to test their hardiness, productiveness, quality and keeping unless our state society? And have we got to wait ten or fifteen years before we know anything only guess work? Where is the committee that should visit these seedling trees and get at the facts, surroundings, dates and figures and report them at our annual meetings? This society should have a competent committee authorized to spend \$100 a year in looking up this winter apple question, learning facts in regard to varieties we already recommend, and in regard to seedlings.

I have traveled over a thousand miles this winter to get facts of orchardists and nurserymen touching this very question. No one in Northern Iowa, Northern Wisconsin or Southern Minnesota is satisfied with any variety of winter apple he has. Repka Malenka and Malinda are the best Minnesota has. Both of these blight and are but little if any hardier than Wealthy, which is almost a winter apple, grown north; I found Wealthy at Winnebago City, Minn., in nice condition, by the barrel, with common cellaring. Dominion I found in Rock and Dane counties in good condition, good quality, rather below in size but worthy of trial. I visited six orchardists and nurserymen in Rock county who are fruiting N. W. Greening, and I could not find a single specimen fit to show at any exhibition or Farmers' Institute. Nowhere did I find in my travels any good N. W. Greening apples, except at Augusta and West Salem, Wis.; one man at Augusta had them so large that 200 apples filled a barrel, that were perfect and were keeping. Avista and Windsor, if it were not that they both blight, I should put at the head of the list for Wisconsin winter apples. Wherever Flushing Spitzen-

berg is bearing it is doing well; Newell, grown north, will keep till January, south only till October. We are having a very unfortunate series of winters, nothing to test hardiness. Ben Davis is fruiting to the northern limit of apple production. I saw grafts in Minnesota that bore as handsome R. I. Greenings as ever came from New York. One man in Minnesota raised 150 bu. of extra nice Jonathan on twelve trees, these apples worth \$2.50 per bushel in the Minneapolis market; one man in Green county, Wis., had ten bushels of Jonathan from one tree, worth \$2.50 per bushel in the Janesville market. We are all at sea without rudder, sail, steam or compass. Who will show us land ahead?

GEO. J. KELLOGG.

Janesville, Wis.

The five best winter apples for Wisconsin are those that have been tried, tested and known all over the state. In talking on this subject let it be understood that this word "best" means the business apple, the one that gets there for bushels, market demands and prices. The first on my list is the N. W. Greening, of which I raised 1,300 bushels this past season. The king of the winter varieties, the peer of the nation, the admiration of everybody, the kind that took sweepstakes premium at the world's show in Chicago for the best bushel winter apples, any variety—to this variety I ascribe Excelsior. Tree as hardy as the hardiest. Almost absolutely blight proof. Annual bearer. Fruit smooth, beautiful shape and color, large to very large, sound as gold dollars and much easier to keep. Fine quality, and brings health, happiness and a good price wherever sold.

Second, Tallman Sweet. The old tried tree and reliable friend, the child's delight, the old man's antidote, the housewife's gem. This old friend needs no description or recommendations, and will only say that today there are more Tallman Sweet trees now standing in Wisconsin over forty years old than any one other variety, and they are living monuments to their own praises. Third, Walbridge. The little fellow that "gits there" when all the rest are gone. Will keep longer with less loss than any variety I know of; will bring a good price

when the rest are gone. Good, hardy, vigorous and a productive tree; good bearer, and too much so in most cases is why they are so small. Fine grained, crispy, juicy and good flavor. Fourth, Pewaukee. The busienss apple for the south and east part of the state. Large, luscious and rich. In my opinion one of the best dessert apples in this state. Large, stately tree, bears young and quite regularly. Fruit always in demand where known. Fifth, Ben Davis. Trees of this variety grown since '85 have yielded more bushels to the tree in my orchard than any other variety of the winter sorts. Beautiful tree, great and regular fruiter. Smooth, fine fruit of medium size. Great keepers but of rather poor quality; one of the best for high dry soils. We have many other winter varieties here in the northern central part of Wisconsin, like Philips' Eureka and Avista, that are not generally known that with us are very hardy, productive and of fine quality; such as Mary, Veteran, Wisconsin Russett, Gold Drop, Granite Sweet, Ruth, and others that we have great faith in and hopes for that we do not care to parade before this society at this time.

A. D. Barnes.

Mr. Hatch—While at the Omaha Exhibit, I made a discovery. It was in confirmation of what I had already known, but I did not expect it to be confirmed by apples grown in Colorado. It was, that our climate away from the lakes is not a winter apple climate. It is difficult to grow a winter apple that will be a good keeper, because it is too hot. I have not named the best five, because nobody has named and nobody can name them.

Mr. Hirschinger's list is called for.

1. Scott's Winter. 2. Newell's Winter. 3. N. W. Greening. 4. Borsdorf. 5. Fameuse.

President—Next subject upon our program, "Is there any way to prevent the people from being swindled by foreign tree agents, model orchards and similar schemes?"

Mr. Philips speaks on winter apples in preference to model orchard, etc. My winter apples that stood the winter of 1884-5 were N. W. Greening, Avista, Walbridge.

Dartt's poem is here read by Mr. Philips. (Much laughter.)

THE SAN JOSE SCALE.

By E. H. S. Dartt, Owatonna, Minn.

This little pest of modest mien,
So small that it can scarce be seen,
Has swept our land from sea to sea
And ruined many a noble tree.

But by far its greatest harm
Has come to us through false alarm;
Bugman meets it as a stranger
And to warn the seedy granger.
He opens eyes as wide as owl's
And fill the land with horrid howls.

He's cunning, and he thinks he sees
A chance to get some extra fees,
And so he howls and howls again
Until he's fooled our wisest men,
Who, in their fright, invoke the law,
And from the bugman's wisdom draw.

The law is founded on inspection
And many scales escape detection,
And these they join in grand cotillions
For each scale left will make its millions.

State after state has been invaded,
And legislatures have been raided
By bugmen and their constant friends,
Who seek to forward selfish ends.

In Minnesota's frigid clime
The scale can't live an hour of time,
And still they want a law made stout
To keep the foreign rascals out,
And if it kills tree competition
'Twill better suit some men's condition.

Now while the asses keep on braying,
Old farmer John he works at spraying,
And it affords him great delight
To know that scales can't stand the fight.

But he's inclined to swear and cuss
Because they've made this awful fuss.
They've scared the Dutchman and Canuck
Till they refuse to take our truck.

If I could only have my way,
I'd save the world in half a day;
I'd girdle every mother's son
Caught doing what these fools have done;
I'd clean the trees with whale oil soap
And hang the rascals with a rope.

Humbugs, bedbugs, fleas, lice and rats,
Bugmen, Beermen, dogs, mice and cats
I'd crowd upon some worthless ship
And then I'd give it Hobson's tip.

Mr. Underwood—Mr. Dartt has the grip, and I move that we express our sympathy to Mr. Dartt, and write a letter of condolence, try and secure a widow who will girdle him for the grip.

Mr. Underwood—Mr. Dartt doesn't understand this any more than a boy 4 years old (referring to legislation against San Jose scale). It is a valuable subject.

Mr. Johnson called for.

Mr. Johnson—I mention my five varieties of winter apples from the farmer's standpoint: Fameuse, Wealthy, Hibernial, Tallman Sweet, Willow Twig.

Mr. Plumb—I regard the Pewaukee as hardy for an orchard in the central part of the state, away from the lake region. We must be very careful to recommend an apple for general cultivation, unless you are sure it will stand ordinary cultivation.

Mr. Underwood is requested to talk on the tree peddler.

Mr. Underwood—Of course this reference has been made here to Minnesota legislation, and the fact that I have received a number of letters from nurserymen from this state, Iowa, Illinois and New York, protesting against any legislation upon this subject, emphasizes in my mind that there is something to be done. In Minnesota they are framing a law under the auspices of the Minnesota Horticultural Society that is intended to reach the matter. It also applies to the San Jose scale. It may be that we may never have the San Jose scale here or in Minnesota that it will do much damage, but they have it in all the other states, which makes inspection necessary. Now, what are your nurserymen going to do? They cannot ship trees out of this state without inspection. As a matter of self-protection you need a law. Now, about the tree swindler. I do not think that nurserymen, any reliable nurseryman, would do anything of that kind. It is proposed by the horticulturists of Minnesota to incorporate in this bill a provision whereby it will be necessary for any of these men to give a bond of \$1,000 at least, secured by two good sureties, for the honest conduct of their business. If there were such a bond required, and such men sold a bill of goods, the purchaser would have recourse by applying to the bondsmen on a suit of damages. This is thoroughly practical and in accordance with good business principles. Now, if Mr. Converse or Mr. Coe or any of the nurserymen of this state sold you something that was not as they represented it to be, they are right here where you can get at them. They are responsible, but that class of men are not responsible for their acts, and you cannot find them, and the only thing that horticulturists are asking is that these men be put on the same footing with resident nurserymen. We know that in Durand last summer there were from \$3,000 to \$5,000 worth of model orchards put in. These men are gone, they have their money. If there had been a law to this effect it would have prohibited them from doing any business, as nobody would have gone on their bonds. We would then have "locked the barn before the horse was stolen." We have no desire to keep any one

out of Minnesota, we welcome honest competition. I think the Minnesota society will do a good thing if it can pass that law.

Mr. Guilford—Will that law conflict with interstate commerce?

Mr. Underwood—I do not think so. There is no question as to the legality of it or its workings. We do not propose to interfere with anybody selling goods to be shipped direct into the state. Of course they must be inspected. It does not require this bond from any one living in the state who does not employ agents.

Mr. Philips makes an announcement relative to entertainment by agricultural students of the Short Course, to be given at 8 p. m., Senate Chamber.

Adjourned.

MISTAKES IN FRUIT GROWING.

By Franklin Johnson.

[Paper Read at Annual Meeting in Madison.]

There is a certain class of mistakes that are like the grip, of which some one has said: "Everybody is liable to have it once, and may have it twice, but the man is a fool who has it the third time."

One common yet disastrous mistake is to buy plants where they can be bought the cheapest. This is a subject that we who have plants to sell feel delicate about mentioning. We know that our motive in speaking may be misunderstood, and for this reason we often make the mistake of holding our peace when we should speak right out. A "pretty good" plant is like a "pretty good" egg. It is worthless. Only *very good* plants are worth transplanting. We wish to commend the stand taken by the Western Fruit Grower, of St. Joseph, Mo. This paper claims to have refused numerous ads. of persons who wished to sell strawberry plants at \$1.50 a thousand. The paper took the position that the price was evidence that the plants were to be

dug from fruiting plantations, and to protect their readers they refused to advertise these degenerate plants.

One prominent horticulturist preaches about "Potency of Pollen" until we are reminded of "the voice of the harpers a harping upon their harps." Our Michigan friend, however, is doing a good work. There is no danger of having the lesson drilled into us too often, to choose only the best for propagation.

It is a great mistake to neglect preparation of soil that is to be planted with fruit. Not only do better results follow from carefully prepared soil, but the results are obtained with less expense. The work of preparation can be done largely with horse power which is comparatively cheap. To neglect this work of preparation entails a great deal of hand labor which is expensive.

It is a mistake to think you are saving time when you are not doing your work well.

It is a mistake to think you are smart enough to go it alone. You are far more likely to succeed if you confer with others who are working along similar lines. Moral: Join a local horticultural society if you have to form one in order to do it, and form one even if you can have but two members.

It is a mistake to attempt to raise fruit without one or more horticultural papers or magazines.

And lastly, it is a mistake for a reader or writer to estimate the horticultural value of a paper by its circulation. I would rather have the privilege of this little talk with you than to have the privilege of speaking to you fruit men and to a thousand others with you, *if* two-thirds of the added audience were made up of men whose special interest was along other lines, say that of dairying or stock growing. There is a positive disadvantage to both speaker and hearer in the simple presence of those not specially interested. The same principle holds with writer and reader. The paper that follows a special line acquires a special circulation and its position gives it a force out of all proportion to its circulation, as compared with the general paper.

Baraboo, Wis.

MISTAKES AND FAILURES.

Dr. T. E. Loope.

[Paper Read at Annual Meeting.]

If I commence to talk of the failures we have made I am afraid I shall not know where to begin nor when I have finished.

Since the year '93 we have had many failures. In that year we failed of a crop, or almost any part of a crop, on forty acres of as fine plants as I ever saw, through freezing of plants and fruit. In fact, it has been a failure ever since on that ground.

In '96 we had 36,000 yearling trees killed by winter and drouth. Our blackberries have not given a full crop in four years and the old plantations are doomed to be uprooted as worthless. In fact, we have had the usual lot of horticulturists, if I may judge by what I have observed. By this I mean those who have relied on crops of fruit and not on plant sales.

However, "hope springs eternal" in the horticultural breast, and we struggle on, with that "beautiful island of Sometime" just below the horizon. We'll reach it "by and by."

If faith in the great beyond could be as firm and fixed in people as the horticultural faith is, what a congregation of happy people we should make. There are some doubting Thomases to give us a jolt occasionally and make things unpleasant.

In the horticultural business, as in all other pursuits of scientific investigation, it is the inquiring mind that paves the way to results. The whys and wherefores are always to be thoroughly considered, and although in many cases the secrets of nature baffle our mortal ken, yet we must continue to explore as far as the limits of human understanding permit.

The little child in the song illustrates the lesson although the hidden forces of nature refuse to be laid bare to our view:

"What makes the grass grow, sister?

What makes the flowers bloom?

Who taught the golden sunbeam

To dance about the room?

“Who made our God in heaven,
And how did he get there?
Did he have wings like angels,
Or did he climb a stair?”

Paraphrasing these lines, we can apply our questions in a horticultural sense:

Why don't the borer's eggs, brother,
As large as hen's eggs be?
Why don't he lay the small eggs
On oak or linden tree?

Why does the scab come, brother,
On apples we want to eat?
Why don't it stay on our neighbor's
And leave ours fair and neat?

Why is the fruit tree agent
Allowed to roam the land?
Why can't he go to heaven
And with the angels stand?

What will the good Lord do, brother,
To the man who “substitutes” trees?
Will he be hung on a Russian crab
To dangle in the breeze?

Where will the “new seedling” fiend go, brother,
If he sells at a dollar a tree?
Will he go down to the bad place, brother—
Barnes, Babcock, Kellogg, Philips, or may-
hap me?

Eureka, Wis.

CHERRIES IN CENTRAL WISCONSIN.

By A. D. Barnes, Waupaca.

[Paper Read at Winter Meeting.]

To be practically correct I will confine my remarks to my own experience and operations and will say that in the early spring season of 1888, I planted at Waupaca ninety-six Early Richmond and three May Duke cherry trees. All grew the first season but three Richmond, and one tree had two clusters of cherries. The three that failed to grow were replaced in '89 by Blue Damson plum trees. A number of the Richmond fruited in '90, and in '91 I had a nice little crop of cherries; sold some \$40 worth. As soon as the May Duke began to fruit a little they died to the tips of the roots, never yielding over three quarts of cherries. I have never failed to have some cherries on the Richmond since the second year after planting; have always had a good demand for the fruit at a good price, and this orchard has brought me more than \$1,000 in cash and the trees are yet in good condition; ninety-one of these Richmonds left.

These trees have a good clay subsoil root bed, overlaid with a sandy surface loam; have had good cultivation the first few years and have been in clover since; have mulched regularly and pruned out the inner branches occasionally in July, just after the fruit was harvested. I always pick in quart boxes and market in crates.

I have demonstrated to my own satisfaction that the Early Richmond is the cherry for business in central Wisconsin.

Since planting this orchard I have planted hundreds of trees of the Russian cherries and other varieties, with disappointment in almost every case. About the only exception to this rule is the English Morello which I have planted quite extensively. Yet the Early Richmond budded on Mahaleb stalks is my choice of all varieties. I am now planting very extensively and shall continue to do so.

Would recommend every land owner to plant at least one dozen of these, if they plant any at all, as they will have just

as many birds and boys—if they have three trees—as if they have enough for them all.

Substitute the Early Richmond cherry trees for sour crab apples or Russian ironclads, wine berries, or “model ochards” and you will cultivate faith in Wisconsin as a successful fruit growing state.

CHERRIES IN SOUTHERN WISCONSIN.

By Henry Tarrant, Janesville.

I see by the program the secretary has got me down for another five-minute paper, Cherries in Southern Wisconsin. I feel I cannot fill five minutes to interest this meeting on cherries. I have been growing cherries about as long as I have apples, with varying success. Thirty years ago this spring I set forty trees of the common Morello; they did well, and about six Early Richmonds that did not do well, did not bear well except one tree, and it was grafted at the surface of the ground; made a good tree and bore well till the year all cherry trees suffered from some cause and died, and almost all the sprouts died also; also all my Richmonds. It was a year after a very full crop. I should think about fifteen years ago all my trees died except three on one end of the row, and they were injured. Two of them are alive yet; one bore full this last year. I was somewhat discouraged and did not set any for some time, till my friend, B. H. Smith, advised me to try again. I got some trees from him about ten or eleven years ago and set them out, and they have done well, and we have sold cherries from those trees for two or three years. About 1892 I commenced to set again. I got the next trees from Mr. Geo. J. Kellogg. They were English Morello, a little different from the trees previously set; good bearers, a good cherry, ripens a little earlier than the first. That same year I purchased some Early Richmonds on their own roots from Dr. Tinker. They have done well except some of them are badly barked with whiffletrees by a careless hand; are now bearing full crops. I also at this time,

1892 or 1893, set other kinds—Wragg, Osthmus, Russian, also Late Morello, called Late Richmond perhaps, and the Montmorency. I have but one tree and it was late coming into bearing; bore a full crop last year. Wragg has not borne much yet. Osthmus Russian has borne very full of rather small fruit. I have some other varieties that have not come into bearing yet, Dyehouse and one other I have lost tag.

Now, as to the profit of cherry culture I have to say that had I persevered and set out again after losing my trees that time I could not have had much to complain of. We have sold our cherries at a fair price, about two dollars per bushel; this last year about \$1.50 per bushel. I have not grown cherries on a very large scale. The apple has been my hobby. Cherries have sold in the local market here and to those who do not raise any because it takes too long to grow them and never set any trees out till it is too late, the trees are leaved out and then the dry weather kills them.

Friday A. M.

President—First subject on our program, "Small Fruits at Sparta This Past Season," by delegate from Sparta Society.

Not present.

Mr. Jewett of Sparta asked to respond.

Mr. Jewett—I can only say that the prospect of a good crop for another year is good. Crops did not suffer from the drought as heretofore. We had the best growth of raspberries, blackberries and strawberries last season that we had for four years. Prices were fair.

President—Next subject, "Small Fruits Past Season in Southern Wisconsin," by A. J. Edwards.

SMALL FRUITS IN SOUTHERN WISCONSIN THE PAST SEASON.

By A. J. Edwards, Fort Atkinson, Wis.

The profits in small fruit growing in southern Wisconsin the past season were very small, especially in our locality. Now, I do not believe that this state of affairs came about by chance.

Take it ten or twelve years ago when almost anything in the shape of a horse would sell for \$100 to \$150, what did the farmers do? Every one who was so situated that he could begin raising colts. And a large per cent. of them were working simply to get a horse of some kind regardless of what the market demanded or where they were to be disposed of. What was the result? The country was soon overrun with horses of all kinds, sizes and colors that would not sell for enough to pay for the cost of raising them. Now, it looks to me as though we, as fruit growers, have been working in very much the same line.

We have planted largely of all kinds and varieties regardless of what we were to do with the fruit after we raised it. This, with the very favorable winter of '97-8, no late spring frosts to damage us, gave us a much larger crop of fruit than our markets could take, and the result was the bulk of the strawberry crop sold for 50 to 75 cents per 16-quart crate and many were not harvested at all. Raspberries, 75 to 90 cents per crate. Currants, 50 to 60 cents. Gooseberries, not much sale at any price. Blackberries, about the same price as raspberries.

Grapes were plenty, and many Concord sold late in the season at a cent and a cent and a half a pound. With us most of our Moores, Early Worden, Lady Brighton, Niagara sold at 3 and 4 cents per pound. Commissions, etc., had to come out of these prices. Can we grow fruit at these prices at a profit each must answer for himself? It may be years before we have another crop like last season's, and it may not. Who can tell? I think that present indications are that it will not be next season. I do not think that we can reasonably expect to get the prices for fruit in the future that we have in the past. We

must bear in mind that there are others who are watching this thing just as close as we are and that if there is a dollar to be made they are going in for their share. We can, however, I think expect to get a fair price for a good product.

Every line of business has its ups and downs. I do not need to say that we are down at present. If we will but take notice we will see that those who succeed in any line of work are those who keep right along through thick and thin, perhaps taking in some side line during the depression to bridge over during the dull time, but in the main sticking to their line. Then when the market turns their way they are ready to reap the benefit. While the one who is continually changing is very apt to strike the market on the under side most of the time. We are very apt when prices are high and every thing looks bright to forget that supply and demand govern the market and to plant largely of those varieties that are selling well at that time, when it would be better many times to make only a moderate planting of those varieties and put out something else.

Now, as to market, my observation is that the local market is the best to work for. By this I mean the one within 20 or 30 miles of home. We must study this market, know what it wants and then grow that, and only in such quantities as can be disposed of to advantage. It is easier to grow what the market asks for than to grow a mixed lot of stuff and then try to force the consumer to buy it. This might raise the question of what the market requires. Each must be his own judge in this matter. This much, however, will apply: Grow varieties that will put an even grade of fruit on the market, not big berries today and small tomorrow. We cannot expect to get rich in one or two years, but by taking a few of the best varieties that are suited to our locality and growing more and better fruit on less ground we can make a good living at least. While it is not on the subject, I think that if every one who is writing up a new fruit or giving their success or failure with any variety or varieties would also give their soils and location we could then judge with some degree of certainty how they would do on our soils. I will close by giving a list of the varieties that did best with us the past season on a light soil with clay subsoil.

Strawberries—Warfield, Crescent, Haverland, Splendid and Bederwood.

Black raspberries—Palmer, Kansas and Gregg. Of these Kansas took the lead. Older is hardy and productive but too soft for market.

Red raspberries—Loudon and Cuthbert.

Purple raspberries—Columbian.

Currants—Red, Dutch, Victoria, White Grape.

Gooseberries—Downing.

The grapes I have already given.

TREE AGENTS.

By D. C. Converse.

Notwithstanding the slurs that have been and are sometimes now cast out upon tree agents, it is a fact, in my judgment, that the tree agent has been a public blessing and *without* disguise. Wherever the country has been opened to settlement, there the enterprising tree agent has immediately appeared and has proved an important factor in making that locality fit for a human being to reside in.

In treating the subject I wish to mention three important factors in correcting some of the abuses that have grown up in the sale of nursery stock through agents, namely, an ideal home, an ideal customer and an ideal nurseryman. I would have for an ideal home one in which an abundance of fruit is grown, flowers and trees are cultivated, and where the children are encouraged to help in their care and taught to observe the varieties, the style of growth of each, the enemies that infest and the means of overcoming them. In short, to bring them in such contact with nature, that when they come to leave the old home they have a knowledge of things that has come from actual contact.

To make our ideal citizen and customer, let us take one of these children as he starts out to make his own home. He purchases a place and as he remembers how much comfort the family used to derive at home from the fruit and flower garden,

he is determined to waste no time in getting them started. Opportunities for buying are not lacking these days and soon an enterprising tree salesman appears and thinks he has an easy victim.

He starts out, "We have a new variety of apple and the company will not allow me to sell more than two to each customer. We have been selling them at \$2.00 each but to get them well introduced here I will put you in two for \$3.00."

Note the answer: "I don't wish to plant novelties, what I want is the fruit and as I can buy good trees of varieties adapted to this section for \$3.00 per dozen, I will let the other fellow do the experimenting."

"Here," says the agent, "is the tree currant—no sprouts to come up to bother you and so easy to keep clean, having only one trunk. These we put in at \$5.00 per dozen."

Our prospective purchaser who has learned to think for himself, says to himself, "Why, back in father's garden I used to see whole canes wither and die even when the fruit was half grown. Now, if there was only one cane and the borer should get into that I would have no means of renewing the bush, so it will be lost. No, I don't want that."

"Here we have the wonderful bush strawberry—grows right up like a currant bush, and you will not be bothered by runners. If you want new plants just take off some cuttings and set them out. Just think of sitting on a stool and picking a whole pan of berries without getting up. We have been selling them for \$5.00 per 100, but to get them well introduced here I will make them to you at \$4.00."

Again our buyer goes back in thought to the old garden and soliloquizes, "We used to have fine strawberries and of all the varieties grown I never noticed any growth like that. Besides, that isn't the nature of the strawberry plant. I can get fruit good enough for me from plants that send our runners."

As the agent picks up his samples and passes along to find some one who does his thinking, after he has signed an order, our buyer again soliloquizes, "Here these men come in representing firms hundreds of miles away, knowing or caring nothing of our conditions and whose apparent object is to work us

for one or two years, get all the money they can and never be seen here again, while right here at home are nurseries run by men who have made a study of varieties, cultivation and conditions for years, and whose dealings show they believe their customers' success is their success.

I shall select one who will furnish me first class goods and I am willing to pay a fair price for them.

What shall our ideal nurseryman be? He has an important part in bringing about the much needed reform. Let him speak for himself.

"I rejoice that I am in this business; no homes are cursed or blighted because my plants and trees go into them but they are the means of bettering and brightening the lives of many. I am devoting the best years of my life to this business, the people want the goods and I am entitled to fair prices and must have them to protect my customers, myself and my family now and in the coming years. The people, as a whole, are fair and will honor me as I deserve. They don't ask for Cheap John goods or Cheap John prices, and by doing business on the square and looking after my customers' interests I have a steady trade, and while I cannot please or hold them all, many will respond to good treatment and will stand by me."

Thus, as you see, my remedies toward correcting the evils complained of are an educated public sentiment along horticultural lines, coming from the work of the home, the press, the farmers' institutes, horticultural societies, etc., and for our home nurserymen to magnify their profession, to furnish better stock and to charge such prices as will ensure a safe investment for himself and protection to his customers.

President—"Small Fruits in Northern Wisconsin," A. L. Hatch, Sturgeon Bay, Wisconsin.

Mr. Hatch—When I first went there, there were no small fruits there at all, and they had no berry boxes. Now for four years in succession we have had excellent crops. The first year were business demonstrations of our own only, the third year on perhaps 30 or 40 acres. Last year's crop was on 60 acres. In

our own case we grew on 6 acres 2,029 half bushel cas shipper for the Sturgeon Bay Fruit Growers' Associ shipped over 10,000 cases, equivalent to 20 car-loads of 50 each. Our Association has ready for next season three 1 loads of berry box material, which being made up wi fully 15,000 cases. Our soil is extremely favorable, climate is favorable, but what I suppose you want to get President, is what we have found out there in small fruit and marketing that will be of benefit to you. I found thing there that was rather unique. It was this, tha berry plants would start too early in the spring.

We had to take the mulching off in order to get good In regard to securing the crop we had, we planted on go and gave good cultivation. We apply ashes liberally. secure as much manure from the city as we can, well rotted manure. We renovate our beds by burning off. During the winter we go to work and distribute fine manure all over the fruiting beds, also distribute ashes, and in this way we secure excellent crops. I have had some experience in this shipping matter, and it involves some things very peculiar. The first car of berries we shipped, the car went through all right, but after a while customers began to complain that the berries were coming through in bad condition. Our Executive Board decided I should go to Minnesota, and see our fruit come in. I went to the depot where the fruit was being unloaded. They did not know who I was, and I got more satisfaction than I expected. The puzzle was some cases were selling for \$1.00 and some for 40 cents, and in some cases a quart of berries would be poor. I went down to the car to see what was the trouble. I could not get much relief there, and finally our commission men took me to see several railroad men of the different roads. Luckily there just came in a car from Georgia. Their fruit was in good condition. "I will tell you what we used to do," says this gentleman from Georgia. "We used to put in our ice, and then we would salt it, and close up our car as we would an ice-cream freezer. But now we first cool our car, then load it, and then put in some ice, and the fruit comes through all right." Well, what was the trouble with those berries when some were in good and others in bad condition? We would pick our berries until

10 o'clock and then we would put them in the shipping shed. I saw that we must not pack them together in the shipping shed in the day time. We must take them to the cellar or to the car. Still that does not account for those berries being mixed in, good and bad. We are likely to get some over-ripe berries. These we must avoid. We also must be particular to reject some varieties. We must depend on the firmer and better varieties. We have used three styles of refrigerator cars. One had the tank over-head and the other two were side-tanks. The California fruit express has 5 tanks. The car with over-head tanks is not practical. It is hard to put the ice in. In loading our car we do not put in more than three tiers, making 500 cases to a car. The car must be cool when you put the berries in. In regard to marketing, we of course have over-whelmed the home market. Our market will be in competition with the rest of the world. The lateness of our varieties will help us out. About picking,—we have a picking stand for strawberries holding 8 quarts, made out of berry box white stock. For the handles we just take two pieces of thin stuff, like basket handles, only stronger. (Mr. Hatch here illustrates the construction.) We put up a shade on one side, for this is necessary on the field. Just as soon as these are filled the pickers take them to the packing shed. This is strictly concerning business small fruit culture. We shall use pine boxes for raspberries.

Mr. Guilford—In case a man wants ten or fifteen thousand boxes, where can he send for them?

Mr. Hatch—I could get them by ordering direct from the factory. We are retailing standard quarts at \$2.15 per thousand at Sturgeon Bay, and we are retailing the 16 quart cases to hold them for \$4.75 a hundred. If a man wants to order of us, I can have them sent directly from the factory in Michigan. That leaves us a little margin on the actual cost to us, and is still less than some of the berry box manufacturers would offer them to us by the car-load.

Mr. Edwards—Do you find the Minneapolis market the best market to ship to?

Mr. Hatch—For car-load lots it is the only one available for us. We ship boat loads to Menominee. In business fruit culture I must tell you of my experience concerning the co-opera-

tion of our neighbors. You can save commissions and expenses by holding together, and you soon realize the value of your neighbors and you will see things in them that you never dreamed of. It exerts an influence over the whole community. We cannot do business single handed or alone.

Mr. Edwards—Do you advocate the picking and throwing away of over-ripe berries in order to strengthen the plants?

Mr. Hatch—Mr. Smith says that he did that. We have never had occasion to. Our nights are cool, and we rarely have excessive heat at night. I cannot see why it would not be a good plan.

Mr. Barnes—I would like to say that in picking and throwing away over-ripe berries, your pickers want extra account for picking those berries.

Mrs. Johnson—We have a method of holding our pickers and getting our last berries picked, that we think is worth imitating. We say to the pickers at first, and let it be understood that if they come they must pick right through the season, or else they will get only half price. If they go back on us they get but one-half cent per quart.

Mr. Jewett—Our association paid 3 per cent. of the amount of net proceeds of their shipment to the pickers.

Mr. Kellogg of Ripon—I think Mr. Hatch has explained all the practical points in shipping. I do not think I could add any points to his.

Mr. Smith—Did you say that leaving the cover on would make the plants come faster than if you take it off?

Mr. Hatch—It is this, during the day the sunshine would warm the straw and ground and protect the plants against the cold wind, and it is this cold wind that keeps our bloom back.

Mr. Smith—Do you remove the cover entirely in the spring, take it all off?

Mr. Hatch—We did.

Mr. Smith—Do the pickers have to deliver the berries to the picking shed?

Mr. Hatch—They bring them themselves to the picking shed.

Mr. Smith—Then it requires no attendants except one overseer to each crew.

Mr. Hatch—Yes.

Question—What is the best berry you grow?

Mr. Hatch—Warfield. For special purposes we think well of the Brandywine. We grow some other berries with more or less satisfaction—the Splendid.

Ex-Pres. Kellogg—What do you fertilize the Warfield with?

Mr. Hatch—The Wood.

Mr. Smith—When your association ships fruit, how can you tell who the shipper is?

Mr. Hatch—The commission men will gladly furnish you rubber stamps with a number, to be stamped on his cases, and this number identifies the shipper.

Mr. Smith—What is the objection to pickers less than from 12 to 18 years old?

Mr. Hatch—Usually their buoyancy is such that they are neither children or persons of judgment. If you could get women to pick, they would be the best, I think.

Mr. Smith—I prefer children from 15 to 18. I want the kind you do not want; you might send them down to me.

Mrs. Johnson—I would say that we have solved the problem of getting good pickers by furnishing a rig for them to come up in, and a room in which they can change their clothes.

Mr. Philips—I do not think there is a berry grower in Wisconsin that could not learn something from Mr. Johnson. He treats his pickers very nicely.

Mr. Kellogg of Janesville signifies his willingness to pick in Mr. Johnson's crowd.

Mr. Philips—I would not advise you to get him.

Mr. Barnes—I had high school scholars as my pickers, and I had a school "marm" to manage them. You must reserve the privilege of discharging those who come for a good time and then they are all right.

Mr. Hatch—I think we must give Mrs. Johnson credit for the suggestion she has offered.

Mr. Smith—The children up to twelve years old have no idea of discretion, nor the years of strength, where they can comprehend sufficiently what is wanted of them. As to the married women, the ones we are able to get, are the wives of foreigners—"Belgiums." They think that simply because they are women, not girls, that they should have more wages than the others. I

got completely disgusted and discouraged trying to employ married women, and I found that grown up girls were the best pickers we could get. I thought very seriously of having a lady as overseer, but my courage failed me.

Motion made to take up the question of resolutions. Carried.

Mrs. Campbell—Your committee on Resolutions begs leave to submit the following resolutions, which were carried.

Whereas, Our Wisconsin State Horticultural Society, through its members, is adding vastly to freight and express matter by fruit, trees, plants, etc., in transfer over their lines, therefore,

Resolved, That we earnestly request that our president and secretary be furnished with mileage from advertisements to be placed in The Wisconsin Horticulturist by said railway lines.

Whereas, the loss to our fruit interests from the depredations of rabbits amounts to thousands of dollars annually.

Resolved, That the Wisconsin State Horticultural Society ask the legislature to repeal the law preventing the hunting of rabbits with ferrets.

Resolved, That we, as a Society, realize the impetus that has been given to horticulture in our state through the medium of farm institutes, and we tender our appreciation to Superintendent McKerrow for placing horticultural topics, to be treated by practical horticulturists, on the Institute programs.

Whereas, We believe that the experiments carried on at the Trial Orchard at Wausau will be of inestimable value to the people of Wisconsin,

Resolved, That a rising vote of thanks be given to Mr. Philips for his unselfish, painstaking work in planting the orchard and giving it his personal supervision, and that he be continued as superintendent for the ensuing year.

Resolved, That the thanks of the Wisconsin State Horticultural Society are due, and are hereby given to A. L. Hatch for installing and arranging our exhibit at the exposition at Omaha. We appreciate the heroic efforts he made to have Wisconsin creditably represented.

We also thank those who cared for the exhibit after Mr. Hatch returned home.

Resolved, That the thanks of this Society be given to W. J. Scott, superintendent of public property, for the courtesies shown us during this session.

Whereas, Superintendent and Mrs. McKerrow have again felt the heavy hand of affliction,

Resolved, That we sympathize deeply with them in their great sorrow.

Resolved, That in the death of John L. Fisk of Omro our Society has met with a great loss.

Mr. Fisk's aesthetical tastes and his love for the profession of horticulture are strongly evidenced by the work of his hands around his home and in the town where he resided.

Resolved, That in the death of E. J. Scofield our Society has lost one of its strong men.

Although comparatively a young man, Mr. Scofield has been for a number of years previous to his death a valuable member of The Wisconsin State Horticultural Society. As a fruit grower and dealer he won an enviable reputation for his honesty and uprightness.

Resolved, That the above memorial resolutions shall be printed in a finely bound volume and sent to the families of the deceased as a token of our esteem.

Vie H. Campbell,

D. C. Converse,

A. L. Hatch,

Committee on Resolutions.

Mr. Edwards moves that copies of the two resolutions relative to Prof. McKerrow, be sent to him by the secretary.

Motion is carried.

Mr. Kellogg—I move that this resolution on railroad rates be referred to the Legislative committee. Motion carried.

REPORT OF TREASURER R. J. COE.

RECEIPTS.

1898.

Feb. 5.	Balance on hand.....	\$737 89
	Received of state treasurer.....	750 00
	Received of A. J. Phillips, membership dues.....	60 00
	Received of W. J. Moyle, subscriptions	18 50
	Received from W. J. Moyle, advertisements.....	24 50
	Received of Geo. J. Kellogg, ad. in magazine.....	4 00
	Received of L. H. Read, ad. in magazine.....	4 00
	Received of F. C. Edwards, ad. in magazine.....	4 00
	Received of Coe and Converse, ad. in magazine.....	4 00
	Received of Mrs. Vle H. Campbell, badges.....	5 00
June 28.	Received of state treasurer.....	750 00
	Received for memberships.....	15 00
	Received for subscriptions to magazine.....	4 00
	Received for life memberships.....	10 00
Oct. 7.	Cash borrowed for Omaha exhibit.....	300 00
Nov. 2.	Cash returned by L. G. Kellogg.....	18 93
	Cash returned by Wm. Toole.....	1 66
	Cash received for fruit and fixtures.....	27 00
		<hr/>
		\$2,738 48
	Expended	<hr/>
		2,610 23
	Balance in treasury.....	<hr/>
		\$128 25

EXPENDED.

Order No.		
1	Babcock, O. W., expenses, winter meeting.....	\$4 05
2	Herbst, J. L., expenses, winter meeting.....	4 32
4	Bailey, Prof. L. H., expenses, winter meeting.....	87 58
5	Hardin, F. A., expenses, winter meeting, premium and trial station	15 38
7	Richardson, E. A., expenses, winter meeting.....	4 32
8	Chandler, S. S., Jr., expenses, winter meeting.....	7 92
9	Single, Ed., expenses, winter meeting.....	6 13
10	Olds, L. L., expenses, winter meeting, judge.....	2 32
11	Innes, W. T., expenses, winter meeting, delegate.....	3 00
12	Lord, O. M., expenses, winter meeting, paper.....	9 75
13	Loope, T. E., expenses, winter meeting, delegate.....	4 60
14	Carey, Mrs. J. B., expenses, winter meeting, delegate.....	4 70
15	Toole, Wm., expenses, winter meeting, paper.....	1 60
16	Barnes, A. D., expenses, winter meeting, paper and premium.....	17 92
17	Read, L. H., expenses, winter meeting, paper and premium.....	14 00
18	Cannon, A. A., premium.....	1 00
19	Tuttle, Nellie, special premium.....	1 00
19½	Hatch, A. L., expenses, winter meeting, trial station.....	13 43
20	Toole, Wm., expenses, winter meeting, premium.....	1 00
21	Tarrant, Henry, expenses, winter meeting, premium.....	6 50
22	Waupaca Seed Co., premium.....	3 00
23	Alsmeyer, premium	1 00

WINTER MEETING.

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Order No.

24	Nye, Edwin, expenses, winter meeting, premium.....	\$6 00
25	Smith, J. M., Sons, expenses, winter meeting, premium.....	1 50
26	Tuttle, A. G., expenses, winter meeting, delegate.....	2 22
27	Chappel, F. H., expenses, winter meeting, premium.....	5 00
28	Johnson, Franklin, expenses, winter meeting, supplies.....	4 41
29	Moyle, W. J., manager of magazine.....	8 13
30	Capitol House, board of delegates.....	118 75
31	Kellogg, Geo. J., expenses, Iowa and winter meeting.....	23 84
32	Coe, R. J., paid W. J. Moyle on magazine.....	51 13
33	Kellogg, L. G., expenses, winter meeting.....	5 50
34	Read, L. H., expenses, winter meeting, delegate.....	6 25
35	Kayser, Lillian M., expenses, winter meeting, reporting.....	53 26
36	Baraboo Republic, printing magazine.....	128 48
40	Phillips, A. J., 1 qr. salary and expenses of office.....	96 70
41	Taylor, F. W., space for Omaha exhibit.....	150 00
42	Hatch, expenses, summer meeting, premium.....	7 85
43	Toole, Wm., expenses, summer meeting, premium.....	12 88
44	Wolcott, Addie, premium, summer meeting.....	6 00
45	Barnes, Mrs. L. W., premium, summer meeting.....	12 00
46	Coe, R. J., expenses, postage and exchange.....	8 69
47	Floyd, H., premium, summer meeting.....	1 00
48	Loope, Dr. T. E., premium, summer meeting.....	2 00
49	Kellogg, L. G., premium, summer meeting.....	3 50
50	Wood Co. Hort. Society, premium, summer meeting.....	3 00
51	Smith's, J. M., Sons, premium, summer meeting.....	14 00
52	Read, L. H., expenses, summer meeting.....	5 45
53	Bonds, A. F., premium, summer meeting.....	1 00
54	McGregor, E. L., premium, summer meeting.....	3 50
55	Johnson, Mrs. Mary C., salary and expenses, summer meeting.....	85 96
56	Baraboo Republic, printing magazine.....	32 75
57	Kellogg, expenses and premium, summer meeting.....	33 99
58	Tanner, Thos., premium, summer meeting.....	1 00
59	Lalton, L. F., expenses, summer meeting, delegate.....	1 60
60	Abbott, C. A., premium, summer meeting.....	3 00
61	Floyd, H., premium, summer meeting.....	1 50
62	Kellogg, Geo. J., expenses, summer meeting.....	2 00
63	Uecke, J., premium, summer meeting.....	1 00
64	Boynton, W. D., expenses, summer meeting.....	1 80
65	Goff, Prof. E. S., expenses, summer meeting.....	7 16
66	Treleven, Mrs. J. D., expenses, summer meeting.....	1 06
67	Phillips, A. J., expenses, secretary, office.....	36 92
69	Kayser, Lillian M., reporting, summer meeting.....	21 90
70	Phillips, A. J., salary	75 00
71	Hatch, A. L., acct. Omaha exhibit.....	75 00
72	Coe, R. J., expenses, acct. Omaha exhibit.....	8 06
73	Kellogg, L. G., expenses, acct. Omaha exhibit.....	8 78
74	Hatch, A. L., acct. Omaha exhibit.....	200 00
75	Tuttle, A. G., apples, Omaha exhibit.....	9 00
76	Goff, Prof. E. S., collecting grapes, Omaha exhibit.....	6 29
77	Fox, Wm., grape baskets, Omaha exhibit.....	1 20
78	Phillips, A. J., salary	75 00

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Order No.

79 Toole, Wm., Omaha exhibit.....	\$50 00
Hatch, A. L., Omaha exhibit.....	150 00
Kellogg, L. G., Omaha exhibit.....	125 00
Coe, R. J., Omaha exhibit.....	44 45
80 Phillips, A. J., Omaha exhibit.....	41 94
81 Phillips, A. J., expenses, secretary's office.....	29 33
85 Baraboo Republic, printing magazine	147 98
86 Hoxie, B. S., expenses, delegate, Illinois Society.....	13 55
87 Kellogg, L. G., expenses, president's office.....	25 80
88 Phillips, A. J., salary	75 00
89 Phillips, A. J., expenses, secretary's office.....	72 69
90 Kellogg, Geo. J., apple, Omaha exhibit.....	1 00
91 Hatch, A. L., acct. Omaha exhibit.....	18
92 Johnson, Mary C., ed. magazine.....	136 24
93 Baraboo Republic, printing magazine.....	49 66
	<u>\$2,610 23</u>

TRIAL ORCHARD FUND.

1898.

Feb. 5. Bal. on hand.....	\$109 80
June 28. Received from state treasurer.....	250 00
	<u>\$359 80</u>
Expended	271 19
Balance on hand	<u>\$88 61</u>

Order No.

37 Phillips, A. J., trees, etc.....	\$65 00
38 Kellogg, L. G., trees.....	17 10
39 Phillips, A. J., trees and expenses.....	36 48
68 Single, Ed., rent and work.....	50 00
82 Single, Ed., rent and work.....	52 00
83 Tarrant, Henry. expenses, trial orchard.....	12 00
84 Phillips, expenses, trial orchard	38 61
	<u>\$271 19</u>

Mr. Johnson—Committee on Finances is now ready to report. We find the treasurer's report correct, and yet the report came in so late, there are some bills that we have not yet been permitted to examine. We will make out our report and present it to the Executive committee.

We, the undersigned committee on Finance, have carefully examined the reports of the secretary and treasurer referred to us, and the various accounts and bills in connection therewith.

We find them to be correct, and the cash balances on hand are one hundred and twenty-eight and 25-100 dollars (\$128.25) in the general fund, and eighty-eight and 61-100 dollars (\$88.61) in the Trial Orchard fund.

Madison, Wis., Feb. 10, 1899.

Franklin Johnson,
F. C. Edwards,
W. J. Moyle,
Committee.

Mrs. Campbell—I wish to say to the members who have not yet paid for their badges, that I will take care of them.

Mr. Babcock—I would like to extend an invitation to the Wisconsin State Horticultural Society to meet in Omro next winter.

Mr. Kellogg—I move that we give them a vote of thanks and refer the matter to the Executive committee.

Mr. Reed moves to accept invitation.

Mr. Hatch—I sincerely hope that we will accept this invitation now, for this reason, it is only in justice to those who have made this proposition. There can be no possible harm in doing so. There are four strong local societies immediately available to co-operate with the Omro Society.

Mr. Reed—We get little or no local support holding our meetings at Madison.

Ex-Pres. Kellogg—Better to leave this matter in the hands of the Executive committee.

Mr. Johnson—The invitation to meet at Eureka was referred to the Executive committee. Now our Eureka friends are gone home, and in justice to them it would be well to refer this invitation also to the Executive committee.

Mr. Reed—It was understood between them and the Omro people that Omro was to have the preference.

Mrs. Campbell—It was voted last winter that all these matters are to be referred without discussion to the Executive committee.

Mr. Hatch—If you have nothing of importance on this program, I would like to bring a matter of importance before you.

I wish to correct a mistake made in Omaha—I think it was made by Prof. Taylor—in justice to one of our oldest members. The matter was this: Mr. Tuttle sent there some 40 varieties of beautiful apples, and there was no mention made of it. I want it put in our minutes, that he earned this recognition. He added much to our exhibit. If there is any way to remedy this I want it remedied.

Mr. Tuttle—The thing is past. There is no use of calling it up. It is past, and I do not ask that there be any action taken by the society on it.

Motion made and carried that Mr. Hatch write out his remarks and embody them in the report (relative to Mr. Tuttle).

President—Meeting of the Executive Board will be held at 1 o'clock at the hotel.

Motion to adjourn is carried.

REPORT OF THE TRANSACTIONS

OF THE SUMMER MEETING OF THE

Wisconsin State Horticultural Society,

Held in Eureka, Wis., June, 1899.

THE JUNE MEETING.

(From July Horticulturist.)

Mrs. Editor:—

"Eureka!" We found it on the banks of the Fox, a quiet inland town, with one of the liveliest Horticultural Societies of our state. Delegates came by boat from Oshkosh, 22 miles away, and by rail to Rush Lake Junction, 7 miles, where we were met by carriages. From start to finish the convention was one round of ovation and nothing was left undone for the comfort of the guests.

The meeting was called to order on time and President Johnson gave us the opening address. As Dr. Loope was away Mrs. Brooks, president of the Rushford Society, gave us a hearty welcome and, as Dr. Loope said afterward, we "went right in and took everything in sight." Secretary Philips responded and the convention settled down to business. The program was carried out fully except one or two papers.

Nothing before the convention was of so much interest as the effects of last winter. The general root-killing by the dry

freeze, for want of snow and moisture, was the greatest Wisconsin has ever known. The two southern tiers of counties suffered most. Mr. Coe reported the worst destruction for his district. Wherever the ground had two inches of snow through January and February, the orchards, nurseries, gardens, clover and grain fields escaped.

G. J. Kellogg gave a report of the rainfall for the last 21 years, showing the precipitation for the months of September, October and November. This gave the key to some of our worst seasons of loss when the ground froze up dry. Prof. Goff gave us a very interesting report of what we had left, after the severe dry freezing of the winter. Mr. Philips reported only one variety of the 35 apples in the trial orchard at Wausau that would have to be replanted. The thermometer registered at Wausau 44 below zero and for the winter 599 below, but they had 16 inches of snow. The opinion prevailed that with dry falls we must apply heavy mulch early in winter for nearly everything. More time was given to this question because it was the most vital to our interests.

Interesting letters from absent ones were read and while the delegation from the state was not large the local attendance and a big turnout from Omro Horticultural Society made things lively from first to last. The time of the convention was just right for our northern strawberry crop and we did not have to import berries for the table supply.

J. M. Smith's Sons made the best exhibition they have had for years, both in fruits and vegetables, but G. J. Kellogg & Sons took first on collection of 10 varieties of strawberries and many other premiums, also first on 6 varieties of gooseberries, but the fresh picked strawberries in nearly every case took first on plates. There were 16 competitors for prizes and nearly one hundred entries.

On the second morning the visiting guests were given a ride to the 40-acre fruit farm of Parsons & Loope and it was a sight to be remembered to see the Longfield apples loaded to breaking, a goodly showing of Wealthy, McMahan, Duchess, etc., and the fruit seemed little infested with insects. There were acres of strawberries which were giving good returns, but to think of

making money on small fruit and carrying it 28 miles overland to market was a most discouraging feature, still they made it pay; and their acres of raspberries will give them lively times later on. Everything had wintered well, very little root-killing and while the thermometer ranged from 20 to 46 degrees below zero everything above ground wintered without injury. This proves that it is not the cold that kills but other conditions of the atmosphere in winter.

It will not be necessary to give all the good things of the summer meeting for then your readers would get the benefit without attending. We shall expect some of the best papers later on in your columns. J. Perriam of Chicago and A. Simonson of Racine were with us during the meeting and a better summer convention I do not remember, considering the local attendance and the large exhibition of fruits.

A DELEGATE.

SUMMER MEETING OF THE WISCONSIN HORTICULTURAL SOCIETY HELD AT EUREKA.

11 A. M.

Called to order by President Johnson.

President Johnson—I see that the president is down for a short address.

President reads address. (Much applause.)

PRESIDENT JOHNSON'S ADDRESS AT THE OPENING OF THE SUMMER MEETING AT EUREKA, WIS.

Ladies and Gentlemen, Fellow Horticulturists:

Again we greet each other at our annual summer meeting. Again our state society enjoys the hospitality of one of our local societies, Eureka.

With gladness we meet in this beautiful month amid these beautiful surroundings. We found you because we wanted to. We wanted to see your beautiful country, but more than that we wanted to see *you*. One of the important things we have

to consider at this meeting is the relation which exists, or which should exist, between our State Society and the local societies. It is fitting that under these circumstances we should meet with one of the best locals in the state. (I do not know but I should say *the* best were not other excellent locals so near.) We are quick to recognize the pleasure we derive from these gatherings and from the acquaintances we form here, but we sometimes question, Does it pay? If the joy and the pleasure is all that is to come of these meetings we may well ask that question. But shall we look upon these meetings as the results of our efforts? Nay, rather let us look upon them as the direct and legitimate means for the accomplishment of a purpose that is worthy of all the time, and thought, and money that we put into it. Look for a moment at our condition. We are living at the closing of the nineteenth century. This glorious century that has made such a brilliant record. This century when the progress of mankind has gone with constantly accelerating speed. No one now questions whether the world moves or not. The most superficial observer knows that it moves. We are rushing on to our destiny. We are in a transition period that affects our entire civilization. It reaches every life. It modifies our mode of thought. It takes hold of every avenue of commerce. It changes conditions in every branch in trade. It remolds every manufacturing enterprise. There is no man so great or so humble that he can reasonably hope to escape changed conditions.

We have noticed the past year how manufacturers and artisans alike have been tumbling over each other to get into some trust or into some union.

Now, we who depend upon shipping fruit to distant points, we get occasional reminders that organization is the order of the day. Some of these reminders are as expressive as an Irishman's hint, which they do say will knock a man down.

Combines must be met with combines, for there is no man that is smart enough or large enough, or strong enough to successfully compete single-handed with the powerful combinations of the present. In addition to the consideration of this excellent program prepared by our secretary, I wish that at this summer meeting we might arrange to have this subject, to which I have alluded, fully discussed at our next winter meeting.

President—Mrs. Brooks of Rushford, president of the local society, will give the Address of Welcome in place of Dr. Loope, who has been unable to come.

Reads address. Applause.

It is with pleasure and pride that I welcome you to Eureka Horticultural Society,—pleasure, in that we are honored by a visit from so worthy a body of co-workers in the vast field of horticulture, and pride, that we are possessed of such a thriving, enterprising society to welcome you to, for your summer meeting. In this world we are so constituted as to lead, or be led, and the horticulturists of Winnebago county have happily chosen the former part.

That these meetings are an endless source of pleasure and profit to the many who avail themselves of its opportunities, is evident from the improved condition in the line of horticulture. We live in an age of progress, and in these times of abundant harvests and low prices, when success depends more upon brain than muscle, God pity the man who is not progressive.

Much of this change has been brought about by more general reading of good literature on the subject, and also by the existence of societies, meeting together at regular intervals, reasoning together, giving, and receiving instructions whereby the condition of the tiller of the orchard may be improved, and the lot of the fruit raiser made one of pleasure and profit. It is with this expectation that I, in the name of R. H. S., welcome you to our Society, hoping your stay with us will cause you as many pleasing recollections in the future as I am assured will remain with us.

Once more I bid you a hearty welcome.

Response by Mr. Philips.

Mr. Philips—I will say that it is hardly fair to change the program, having Mrs. Brooks read the address of welcome in place of the Doctor, as I expected to answer Dr. Loope. Now that he has skipped out I am going to dodge out, too.

Ladies and Gentlemen: We have with us a gentleman from Chicago. He takes enough interest in us to come here to at-

tend our meeting. I take great pleasure in informing you that I have deputed Mr. Perriam to take my place, and I think Mrs. Brooks did it better than Dr. Loope could have done and that Mr. Perriam will respond better than I can.

Mr. Perriam called for.

Mr. Perriam—Mr. President, Ladies and Gentlemen: It seems very much to me that this is rather a deputed way of doing business, but I am very glad to have the honor to appear before you here, especially as my whole life has been devoted to horticulture. Now in my old age I have nothing to employ my time but to visit with my neighbors, and see the progress that they have made. In Illinois we have our State Horticultural Society, and three district societies. While here I notice you have local societies in almost every portion of the state, and that is why you are so successful in holding your summer meetings. There is another beauty about meeting with the local societies. The season of the year is just right, and as you have chosen the season of strawberries, we enjoy the fruits of the season both green and ripe, and for my part, I never go home without feeling a great deal better friends with myself and with those whom I meet. It is a curious thing the change that has taken place in horticultural operations, as well as agricultural. Some 60 years ago we sought to get everything as early as possible. We used every means in our power to force the plants and get our fruit on the market. After the railroads began to operate, we sought to get things as late as possible. So with everything there in the gardening line. All the early stuff is purely artificial. We have green houses, covering 10 acres of land, all devoted to lettuce. The march of progress is such that we now get our fruits from California, Georgia and New Orleans. In other words, you get fruits early in the season here, and later you send your fruits. We buy cabbage from New Orleans, and later in the season send cabbage back to New Orleans.

I am very glad that you have given me the privilege of responding to the Address of Welcome for myself and for those whom I in some way represent. I am giving much attention to Farmers' Institutes in Illinois. We have been behind the state of Wisconsin in that. We are now following fast on the track of Wisconsin. You treat your Farmers' Institutes exactly the

same as you treat this question of horticulture. You get out among the people. It was said by a member of your legislature that the Farmers' Institutes and the Horticultural Society have added untold millions to the wealth of Wisconsin. From no place, Mr. President, do we get such color in the fruits as from Wisconsin. We get as large fruit from Michigan, but not the exquisite color. Your market is in the northwest and Lake Superior region. Unfortunately we in Chicago get little of your fruit.

I thank you. (Applause.)

President—Mr. Perriam spoke of the influence of Farm Institutes. There is one thought there that we must get hold of. An individual can do much through an organization, which no individual could otherwise hope to do.

Mr. Philips calls for Mr. Kellogg.

Mr. George Kellogg—I do not know what business you have to call me up. I am glad to meet with the horticultural societies everywhere. I spent some time last winter in Minneapolis. Now that we are in the line of small fruits we want to bring out the things that are good and bad. There is such a variation of soil, and so many different varieties of fruit, that there is no list that will adapt itself everywhere. We have perhaps 30 varieties of strawberries, 10 varieties of raspberries, 10 varieties of gooseberries, and more than that of currants, perhaps. If there is any good in the different varieties we want it brought out by the different growers. We want to know what is good. This preaching horticulture does not amount to anything unless we can make it pay. You can tell a man to plant strawberries, and unless he uses the varieties adapted to his soil, it is a failure. We have advocated for the last two years to plant nothing but the perfect blooming varieties. We have plenty of them that will give as many bushels as pistillate. The cause of the imperfection of perfect varieties comes from the lack of vitality in the root force.

I do not wish to take any more time, Mr. President.

President Johnson—I wish to commend one thing Mr. Kellogg does. He prints pointed directions, the result of his life

work, and sends them out with his price list. I wish to commend this.

President—Mr. Philips has some letters that he wishes to read, which will come in properly now.

Mr. Philips—This is a busy time of the year to leave home. It is a busy time with people here, but after all the people have left their work to attend these meetings, and I expected just such a welcome.

Mr. Philips tells a story of a Scotchman whose brother had come from Scotland to visit him. When asked how long he intended to remain, he answered: "There is an old saying in Scotland: If you go to a place and find a fat dog and a rusty spade, it is a good place to stay. I have found both here, and so I expect to stay for the winter."

Well, when I came to Dr. Loope's house yesterday, the first thing that I saw was a fat dog, and judging from the looks of his garden, I think the rusty spade is not far off, so I think I shall stay. (Laughter.)

Mr. Philips reads letter from Mr. J. S. Stickney of Wauwatosa.

Lake Keesus, Wis. (near Merton), June 17th, '99.

Friend Philips:—

Your request of 10th inst. is only one of many which have come to me, all making me wish that you would ask something easier.

Any and all the observations that I can make do not warrant me in reaching any fixed and positive conclusions, except the two general ones with which we have long been familiar, viz.: going into winter with roots too dry is dangerous. Late cultivation on over rich land (which few of us are troubled with), producing luxuriant growth late in the season, is also dangerous. With reasonable choice of varieties he who avoids these two dangers will be able to bear the other ills that may come to him.

Here are a few illustrations: In our younger orchard, 4 years planted, in 400 McMahan about 20 are dead, 10 more anxious to die, balance healthy and vigorous. In 60 Duchess we find about the same conditions and proportions. Cause (I think) condition and maturity of wood on going into winter.

In an older orchard, 8 years planted, mostly McMahan, all standing in an old plantation of currants, thoroughly cultivated

up to July 10th, 5 dead, all others prosperous and all that did not bear heavy last year carrying a good crop of fruit.

In our older orchard, 15 years planted, there are few deaths and none wanting to die, save a few that bore too heavily last year. This orchard was cropped with peas, part harvested and part fed off by hogs, was all fall plowed, and is now in peas to be fed off as soon as ready. When fed off will be immediately sown with crimson clover, vetch, peas, red clover, or something else! to be plowed under late in fall; trees making good growth and we mean to deserve a crop of fruit next season.

In our garden red raspberries suffered badly. Black, very little; cause, later growth and immaturity of red.

Here at our lake cottage 50 feet above the lake on gravelly soil, 50 per cent. of the hickory and white ash are dead, 25 per cent. have not yet decided whether to live or die (only a question of brief time), and the balance don't look happy; cause, too dry at the roots.

Well, what are we going to do about it? All will answer, Do the very best we can and each will work out results in his own individual way. One thing we shall not do. We shall not do without fruit.

Cordially,

J. S. Stickney.

Mr. President—This letter reminds me that it is my duty to appoint certain committees. I mention as a committee on

Resolutions: Mr. Perriam, Mrs. Treleven, Mr. Geo. J. Kellogg.

Awards: L. G. Kellogg, Mr. Bradt, Mr. Merrill.

President—We are always glad to hear from Mr. Stickney. Do you wish to take any action in regard to this letter?

Mr. Philips—Move that it be referred to the committee on Resolutions.

Motion carried.

Mr. Philips reads letter from Mr. Menn.

Mr. Philips—I have still another letter, from Mr. Tarrant. It is really a good report.

Janesville, June 19, 1899.

Friend Philips:

Your letter is before me asking me to write you the condition of my orchards and others in this vicinity.

I am sorry I cannot be with you in your meeting this week.

I know I should enjoy it very much. The work has been very pressing this season on account of so much extra work on farm. Clover all killed, and I have a large insurance company to do the work for, and storms have been frequent and losses to adjust, it takes my time largely.

I will try and give you a short account of the condition of things in horticultural lines in this vicinity. Yesterday afternoon I looked over my orchards. I have three: one set 30 years ago, 1869; one set 29 years and one set 28 years. In this last one were 100 Ben Davis. I reset this in 1892, and have one orchard of 8 acres, 500 trees on very exposed situation, no shelter; soil, clay loam limestone, underlaid from 2 feet on crest of raise to 10 or 12 feet, perhaps more below. This orchard was set in 1894. The condition of this orchard, as I find it today, is about ruined. We cropped it to corn last year; cut the corn and the land was bare, except the corn stubs. There is about one-quarter of the trees healthy and some fruit on many kinds. About half of the trees have leaved out and blossomed and part are dead and dying. I did not set many of the old stand-bys in this orchard, such as went through the other severe winters of 1884 and 1885, and the other was in the '70's (I forget which year). Have not time to look it up.

As to the next question,—Which wintered best, which poorest? In this young orchard there are six varieties that are better than others: Yellow Transparent, Duchess, Wealthy, McMahan, Patten's Greening and Longfield. All have more or less fruit at the present time.

You must not think these kinds are all right; many dead trees of these varieties, and some other varieties have good trees left. Switzer and Wolf River do not appear to be hurt so very much, but not having so many trees of those as the others I cannot tell without counting all and giving per cent. planted.

Now about my other orchards I will tell you in as few words as I can. The old trees, such as Golden Russett, St. Lawrence, Haas, Duchess, Willow Twigg, Red Astrachan, Fameuse, Tetofsky, Perry Russett, Malinda, Wealthy and Wolf River were set later, about ten years later than first named, and have not suffered much. But a large number of younger trees (for I have been replanting; when one died out I replaced it,—perhaps not the same variety), have died or is dying, and my orchards have not suffered as badly as my neighbors near me. I shall not have very much fruit this year. My trees bore heavily last year and I did not look for large crops this year. I will say that Windsor has stood it better than N. W. Greening. But the varieties are not the trouble this year, because I have Ben Davis fruiting, also Minkler.

But I have a theory in regard to this destruction of our hardy trees. Now I have Hiberna that is hurt worse than Longfield, and worse than many other kinds. I have Jonathan, not one dead; Rome Beauty, none dead; Avista, all have some fruit; Milwaukee, some dead and some fruiting; Bailey Sweet is growing, no fruit; my Spitzenbergs are not fruiting much, but trees, I think, are all right. But the theory I was speaking about. I have dug up some of the trees that are damaged; not large trees. I find those dead, no leaves on them now; are root-killed; those partly alive have a root with live rootlets growing, and this root the one nearest the surface of ground, showing to my mind that those trees grafted on seedling roots that were tender had succumbed to the cold, dry winter,—frozen to death,—the one root alive probably grew from the cion of a hardy variety, showing that the roots must be hardy as well as the tree desired to be grown. Whole roots, as we hear it preached to us by certain S. W. folks, not wanted.

I have one more thing to say: It is that the trees top-worked on the crab stock have suffered less than that grafted on some of the Russians. I have been top-working on Virginia and Shield crab and on a number of Russian Early varieties. But not all crab stock has wintered; some have root-killed, but not so many as the apple stock.

I think we in this part of the state are fortunate in having any fruit trees left when the hickory, black walnut and other forest trees are dead. I have more black walnut trees killed than I have apple trees, according to the number of trees planted. My orchards, except the one I spoke of first in this paper, are protected, and I certainly believe it has saved many trees. I think I shall have to take back what I said on page 34, April number, Horticulturist. Question 5: Do you consider a wind-break around an orchard a necessity? I answered, No. But the way things look now I could not give the same answer.

I must say a few words about other fruit trees, pear trees do not appear to be hurt much, only one out of perhaps twenty dead; they look well and are fruiting. Plums are looking well except a few. De Soto, Rolling Stone, Wyant, Rockford, and Hawkeye are fruiting, others are doing well except Satage, Glass, Commune, Lombard are all dead. Cherries: Ostheim and Montmorency and two others I have lost the names of are dead, so I have only Richmond, English, Morello, Kentish, Dyehouse are alive. Grapes nearly all dead, five or six vines are fruiting. My neighbors' vines are all dead. Blackberries all dead, Black Cap Raspberries are a full crop, Loudon full crop. Currants and gooseberries are full. One good thing we have lost the Col. Potato Beetle. Now, Bro. Philips, this is over long, if I had

time to rewrite it I would try and shorten it up by a page or two, but there is not time, and you will see I have not answered your questions. I cannot tell what kinds to plant and what to discard, it is a very unsatisfactory state of things.

Respectfully,

H. Tarrant.

President suggests leaving it until the afternoon when it will come in nicely with other papers.

President—Mr. Stickney's letter will come up for discussion when we listen to the paper by Henry Floyd, on Orchard Conditions in Winnebago county.

Adjourned until 1:30 p. m.

Wednesday P. M.

Dr. Loope called for, speaks in favor of the local societies. Take for instance our society, if we have a good thing and talk about it at our meetings, the members take hold of it and take it home, and from a small beginning you have something that is of interest to the state. This is the mission of the local society. Of course the general public do not get the Magazine. Now these members of the State Society may be good men. I do not know but what Brother Philips, Johnson and Kellogg have been members of the State Society ever since they can remember. I do not say that they are not doing a great deal of good in this line, but we ought to have local societies all over the state. If this could be accomplished, we would have a State Society here that would be worth one hundred times more than it is now. This last winter the State Society wanted \$800 to pay for their Omaha exhibit, and they could not get it from the legislature. They only got \$300. So I believe that the more interest you can get in the local societies, the more local societies you can get, and the more members you can have, the more influence you could have with your legislature, and the more good you could do. I have nothing more to say. Applause.

A PLAN FOR MAKING LOCAL SOCIETIES MORE HELPFUL TO THE STATE SOCIETY.

Mrs. D. J. Trevelen of Omro.

It is my opinion that the State Society should be more interested in the local society. They should treat them as a good parent would a child. When a local society is formed some of these "old pioneer horticulturists" ought to visit them occasionally and help create an interest, help them to be a live society, instruct them in horticultural work, let them feel that these veterans of Horticulture are interested in others, in their work, and if these local societies know you are trying to aid them you will cause an earnestness and enthusiasm which will grow and when they find that the State Society is on a level with the local society and willing to let us have even privileges, then your state membership will be increased which now numbers about 100 and it should be 500. You always hold the winter meeting at Madison. Madison people do not attend your meetings and if I mistake not you only have four or five members in that city.

The state makes appropriations. The farmers and members of these local societies help pay these appropriations and when you veteran Horticulturists do anything you expect good pay for it (I hear even for your time). Why should you be paid for your time any more than a delegate of a local society? Then if there are any privileges, such as being sent as a delegate to another state some of you that are experienced and veterans in the work are the ones sent, why not let others learn and receive the benefit if there is any to be derived. If there is not a move made to increase the state membership, when these veterans go off the stage of action the State Horticultural Society will be where some of the local societies are (gone out of existence). An increase of membership to the State Society from the local societies with an earnestness and interest in each other will cause each society to be helpful to each other in more than one way.

How can you expect the local societies to take an interest in the State Society, how many times have you sent out your men to these local societies, we hardly know you. Why not use

some money in that way, it will return to you again. The young must eventually take the place of the older ones. Horticulture must be encouraged in the young and these local societies are encouraging the work with the young, and I know the State Society sees the need of it also. We can but give the State Society praise for holding their summer meetings among the local society and a vast amount of good is being done in so doing. We are just beginning to know some of the members of the State Society and somewhat interested in them whether they are with us or not, let us join hands and work together as one whole society—have no indifferent feelings toward each other. In union there is strength.

Mr. Philips called for.

Mr. Philips—Mr. Chairman, Ladies and Gentlemen: This is a subject that I have given much thought to, and I arranged this program so that I would not be expected to say very much. Mr. Perriam gave us the compliment that in horticulture we are at the head. There was a time when Minnesota looked to our state for advice, and now we are looking to them for information and advice. With regard to the local societies there is a difference of opinion in the state. If we give the people of the state our report for 10c they will not pay \$1 to become members of our Society. Prof. Goff thinks we are too liberal with the local societies and with the people. He says that we should keep our reports within ourselves and give them out to the people when they become members and join us, but we cannot do that. We run against an obstacle when we want to stop sending out volumes to local societies. Mrs. Treleven says that there ought to be 500 members in the State Society. We are older than Minnesota, and we ought to be ahead of them, and we are behind. Minnesota has 800, and we are plodding along with about 100 members. Some local societies have not a member in the State Society. Still we send them our reports. Mrs. Treleven says she sees no reason why we should hold our winter meeting at Madison, inasmuch as there are only four or five members of the Society there. I staid three or four days at the capital, and I made an effort by getting the names of one hundred ladies of Madison asking them to come to our meeting, and about three came. That is the success we have had at Madison.

Still there are advantages meeting there. The short course boys are there and they take interest in our meetings. What is the result at Minneapolis? There are 250 members living right in Minneapolis, bankers, etc. Now, last winter at the meeting of our Executive Board, I told our people that we ought to do more for the local societies. The ex-president of the Minnesota Society is a worker. He says that he does not favor local societies at all. They have two, one at New Ulm and one in southern Minnesota. He says, "Those two local societies have taken away the membership from the State Society. He says they are really an injury to the State Society. I told our people last winter and President Kellogg advocated it, that we pay our secretary more, pay him enough that he can spend his time in the interest of the State Society. There was a motion made that the secretary spend more time, but nothing came of it because we made the exhibit at Omaha. We will not get much back from that, but if compliments are good for anything, we received in the neighborhood of \$100,000.

Refers to article in McClure's Magazine (Tells story about pony.) Moral: Does it pay. A man asked me a short time ago, "Does this horticultural business pay?" Why, I said, I do not know. I have raised six children, healthy and well, and they have had all the fruit they wanted. How much I can give horticulture credit for, I do not know, but I think considerable.

There is much inquiry on horticultural subjects especially after this hard winter. Prof. McKerrow has been very kind about sending Horticultural people to the agricultural meetings. At the institutes they give us about one-third of an afternoon. There is great interest in horticulture, and it is quite an item in the way of pleasure, health and profit in the state of Wisconsin to have a good horticultural society. I wrote to Mr. Underwood for his ideas. He thought it was not best for the State Society to encourage local societies, but it seems to me that there should be more missionary work done to get among the people and if the state found we did good work, they will give us a larger appropriation.

I thank you for your attention. Applause.

President Johnson calls for discussion.

Mr. Kellogg—We have tried to get an interest in the local societies by offering to pay them the expenses of their delegate to our winter meetings provided they send a delegate to our summer meetings, they to pay the expenses. We have tried this for the last five, yes, ten years. They send their delegate to the winter meeting, but they do not send a delegate to our summer meetings. The question is, What can we do for the best interest of the state and local societies? If we were to pay the expenses of the delegates to the winter and summer meetings we would soon become bankrupt. You have a live society here; we have a dead one in Janesville, and I think it will be buried now. (Laughter.) Now, what can be done for the best interests of the state and the local societies? I do not know of anybody in the state society who draws a dollar pay except the secretary and the president.

President Johnson—The president does not get any pay for his time, just his incidental expenses. Dr. Loope brought out a very important point when he said that if we had local societies throughout the state, that it would increase the strength of the state society wonderfully. That is true. You are most likely to influence the state if you influence the local surroundings. The real interest of these societies is reciprocal. The state society should help the local, and the local societies should help the state. If I were to find any fault with the state society I would say that it has helped the local societies too much, whereas the local societies do little for the state society. Were we to pay the delegates from local societies to both our winter and summer meeting, it would take more than our appropriation. It would not be unjust if we would require the local societies who send delegates, to furnish at least 5 members to the state society.

Mrs. Treleven—I do not think there is a local society in this part that is not willing to pay their delegate's expenses to the summer meeting. The state society seemed willing to do it, and so we did not object.

Mr. Babcock—You said, Mr. President, that any local society in order to be entitled to send a delegate, should furnish 5 members to the state society. There are very few local societies that have 5 live members.

President—What I wanted to impress upon you was that you do not take enough interest in the state society.

Mr. Kellogg—There is one matter that has been mentioned, in regard to getting delegates or getting members of the state society to come to the local meetings. Is there any society here that ever failed to get any one that they asked for?

Mrs. Treleven—I look at it in this way: How many applications have ever come in for missionaries to foreign countries? Laughter.

Mr. Philips—In regard to this question of getting members to the state society, and doing missionary work, as has been suggested. Now, if Mr. Babcock will go out as an agent and get us members, we are willing to have him do so.

Gentleman—Has Fond du Lac county a society?

Mr. Philips—Well, Ripon has a society, but they have not sent a delegate.

Mr. Perriam—You do not appreciate the influence of the local societies upon the legislature. If the local societies would act as a union when your bill for an appropriation comes up and they would say to their members in the legislature that they wished them to up-hold it, and do what they could towards getting the appropriation, the influence upon the legislature would be the lever by which you would be raised up and prosper. We get \$5,000 a year, and we publish our own reports, but in our state we act as a unit; that is, the three general societies. You must have as many local societies as possible to get your appropriation.

Mr. Philips—Our legislature gives us all the money we can use for the amount of work we now do.

Mrs. Treleven—In regard to forming local societies, there is no need of aid from the state society, if they will only call on the society once a year or so.

Mr. Babcock—During the session of the legislature this winter I was acquainted with one of the legislators, and spoke to him, thinking it might help on our appropriation. He said, "How much of a society have you?" "How much does it amount to?" I told him we had a good live society and some local societies. I said I did not know how many, but I presumed

8 or 10. He said, "If you had a good live society in every assembly district we might be able to get someone to work for you."

President—The next topic upon our program is a paper by Mrs. E. J. Becker, of Eureka.

FLOWERS.

By Mrs. E. J. Becker, Omro.

I can not remember a time when I did not love flowers, any kind of bloom was pretty. We hunted for the early ones of springtime, planted seed and roots,—enjoyed the summer and autumn blossoms, and tried to keep a few in the window over winter.

Sister and myself had very nice gardens in the school-days,—how we did work and tug,—sand from one place, soil from another, rose roots from one friend, shrubs, vines, bulbs, from others. Some of the very hardy varieties are still on the place, after long years of neglect. I have picked the tulip bulbs out of the sod, and have them doing well, and peonies I find are good to depend on. After once started they last for years.

I would be glad to see a gay flower garden at every home; it makes such a cheery spot. If it was easier for busy mothers to have them I think there would be more, but in an open yard something will get loose and run through or eat up the best of all, so one gets discouraged trying.

If, when one decides to have a flower garden, I say, select the ground to be used, having it located as favorably as possible considering convenience, exposure, soil, etc., then all hands fall to work, prepare the ground well; with the team bring soil from other places, enrich thoroughly, put plenty in deep, because this is to last for a long time. Then after putting on the loads of loam, sand, woods' earth, etc., add a good supply from the henhouse. This will not give such a crop of weeds. After mixing this well, level and settle; get it fenced with a wire net so no live thing can get through to undo the work. One hen will dig over more garden with her claws than a boy with a rake. And all the time something happens.

I had some very pretty tulips in bloom one day when a friend

came to see us. "Oh," she said, "how bright your flowers are." Then four-year-old piped up: "Yes, the long-tailed wether got three of mamma's tulip buds yesterday." I saw them going before I could say "Shoo." The words I said did not go on record, but I did wish they would prove poison to the woolly rascal. Soon he was sold.

After it is fenced, the pleasure of planting. I would plant hardy things of many sorts, to have a succession of bloom from the time the early crocus peeps out to tell you it is springtime. These hardy bulbs are cheap if ordered in mixed lots and just as pleasing as named sorts. Plant freely of crocus in borders; tulips, narcissus, hyacinths, in clumps. Then when wanted to reset they are easier to find.

Peonies are hardy and very showy when other flowers are scarce. They are in a good many shades of red, pink, creamy and white. The iris is handsome and never winter-kills; has no insect enemy that I know. I have the German iris in cream color, and intend to secure a variety of colors. The Keampferi from Japan, blooms later; both double and single flowers.

I would like roses, but they are so much more work training, and all the vermin known in the garden are after the rose,—spiders, slugs, rosebugs, green lice,—so you must watch and fight and spray if you hope for flowers worth showing.

I like the old-fashioned things, and have a bunch of rosemary that has been in the same spot for years, though a man with a spade gets at it sometimes. Ribbon grass is pretty, too, dainty in the early bouquet.

The plant of bleeding heart grows better for years, and has quite a long season of bloom. Syringa, honeysuckle and other shrubs will be safe outside the netting. Wiegelia is a very lovely bush.

I would select for seed to plant, sweet peas near outside to climb over the netting, nasturtiums also; cyprus vine is very neat (pour boiling water over the soil when the seed is planted). Maurandia vine is lovely. Then plant in order to suit, plenty of pinks, poppy, pansy, phlox, petunia, sweet elysium, mignonette, marigolds, verbena, feverfew. Double daisy is lovely with pansy. Set gladiola bulbs deep all among things. The spikes can be cut and leave no vacant places. Asters need very good

care to do well, but I saw some volunteers once growing right in sod,—short, thick plants, full of bloom, as double as daisies, red and white,—and thought it worth trying. They were near the well, so had water often.

I have had nice tubs or boxes sometimes for these. Use geraniums in variety, with sweet elysium, wandering Jew and sedum for edging. Heliotrope is very fine for bedding; grows so strong, such bunches of bloom, and so dark and rich, if it would only keep well when cut. Can some one tell us how to keep them bright.

Then have dahlias to round out the season after the annuals have grown shabby and gone to seed.

I have only named those that are easily grown and very free blooming, for the mother and children to be sure of flowers all the time. My children are as fond of them as I am, and have the boys and girls help do the work; all do a little and they will learn more about plant life of use to them than they will find in the high school course with a microscope.

As they are older, the garden will get some help, and so around by way of the pop corn patch to potatoes and pumpkin pies. A nice little hoe is a neat gift by this time. Baby weeds will fall by the millions. Soon you will have a pretty well trained farmer,—this in vacation times, of course.

It is well to know how to do things. Even if, when school days are over, the boy decides not to be a farmer and prefers a trade, or he may become a physician, then in times when everyone is awfully healthy he can find days to improve his home grounds by planting hydrangea, paniculata, grandiflora, spirea, ornamental shrubs, trees and flowering plants. Maybe there will be a vegetable garden in the background, with a system of waterworks to insure against failure of the crop in dry seasons.

He may take a fancy to fruit growing; possibly take bees along to secure the honey in the fruit blossoms. Of course he will belong to such societies as this, and be able to discourse on health or horticulture with equal facility.

Somewhere I read that the tilling of the soil is destined to become the most learned and practical of all the professions. I know it is good for every one to be out of doors.

Dryden wrote:

“Better to hunt in fields for health unbought
Than fee the doctor for a nauseous draught.
The wise for cure on exercise depend;
God never made his work for man to mend.”

No end of money has been invested in wheels to get women out into the air for their health. I believe there is more health to be found out in a garden, at five o'clock in the morning, with a five-cent sunbonnet and a fifty-cent hoe, with the flowers so bright and sweet and all the birds singing, than out in the blazing sun, palpitating and perspiring to propel a fifty-dollar wheel in pursuit of health, for it is really work to ride the bicycle, and is trying to the eyes. With sun, wind and dust the complexion acquired will rival my own, gained by going bare-headed feeding chickens, planting and picking flowers.

A woman I know has in her garden berries and flowers, as much as an acre of ground, not under the plow and cultivator, but the work of her hands with spade and hoe. The quantity of truck and fruit is a sight to be sure, and if near a large city, would provide a living for a family. Her health is good.

President: We will pass to our next topic. “Report of New Trial Orchard to Date,” by Mr. A. J. Philips.

TRIAL ORCHARD AT WAUSAU TO DATE.

A. J. Philips.

After my visit to this orchard in the spring, when I was surprised at the fine appearance of the apple, cherry and plum trees after the very severe winter that had passed, I wrote a short account of same, but stated in it that later on I would write more as I was fearful that the damage would show more then.

Last week I spent two days among the trees and am still very favorably impressed with their condition. Only one variety in the commercial orchard shows signs of permanent injury and that is the Newell, a fine winter seedling that originated near Baraboo, Wis. The entire row will have to be replaced. Of

the twenty trees set last spring to fill vacancies several are not starting well, and I have noticed the same in other places, probably owing to the effects of the cold of last winter on spring dug trees. The Aitkin, Rollingsstone and De Soto plums are bearing some, and the Linfield, Kaump and Wealthy apples (a few specimens) are the only ones bearing any fruit, while a few Virginia and Sweet Russett crabs can be seen. The trees are making a very good growth and the major part of them have started at the terminal bud. I cut specimens of the average growth from about thirty-five different varieties which I will have examined and send report with this. After closely watching the growth of the Linfield, the Iowa Blush, the Ratsburg and Patten's Greening for the past three years, I will say if they were all good winter varieties, I would consider them all valuable additions to our list of apples for this part of Wisconsin. After the conflicting reports we have received about the Windsor and Northwestern Greening I can report that none of these varieties are dead here, and the new growth of both have started largely from the terminal bud. Plums and cherries are making good growth, and I think the soil in this orchard well adapted to both.

I now feel that with as favorable conditions in the future as in the past, that we should make an effort to hold our next summer meeting at Wausau, so that more of our members will have a chance to see and examine this orchard. The Wausau people I have talked with are much in favor of this arrangement, and I think it would be a mutual benefit to both our society and to the fruit interests of northern Wisconsin. I have a few trees here that have entire new tops, but most of the top-worked trees will need a few more grafts next spring to finish them in good shape.

The following is the report of a committee consisting of Prof. E. S. Goff, Dr. T. E. Loope and L. G. Kellogg, on the new wood, before referred to:

The following varieties have made twelve inches of new growth, to-wit: Gideon, Hiberna, Ratsburg, Kaump, McMahan, Wealthy and Patten's Greening.

The following made eleven inches growth, to-wit: Duchess, Okabena, Longfield, Iowa Blush and Swaree.

The following made ten inches of growth: Morgan, Hoadley, Dudley's Winter, Peerless, N. W. Greening, Randall, Avista and Mary.

The following have made nine inches of growth: Longfield, Lubsk Queen, Milwaukee, Wolf River, Crampton's Seedling, Morris and Windsor.

The following made seven inches growth: Smith's Seedling, Utter, Hibernial and Malinda. Repka made six inches growth and Newell made only three inches, and all except Longfield and Newell started at the terminal bud.

Taking into consideration that this orchard is at least ten days later than southern Wisconsin, the growth made is very satisfactory, and so many starting at the terminal bud is remarkable, showing very evident that the last season's growth was well ripened.

The official weather report at Wausau for the month of February shows that the cold aggregated 354 degrees below zero, and for the entire winter the aggregate was 656 below, showing that our newly planted trees have stood a very large amount of cold. The record shows that during the month of February there were sixteen inches of snow on the ground, which without doubt saved the roots.

Mr. Kellogg—What was the lowest temperature last winter?

Mr. Philips—Forty-four degrees was the lowest official temperature.

Mr. Kellogg—What was the snow-fall?

Mr. Philips—Fourteen inches at the beginning of the month of February and at the close of the month sixteen inches. Month of March we had more snow.

Mr. Babcock—What was the condition of the soil regarding moisture?

Mr. Philips—Plenty of moisture.

Question—What kind of wood is best to top-graft on?

Mr. Philips—We had best success with the Virginia crab, because the trees make the best union.

Mr. Philips here refers to the specimens which he brought. I lost but few graft out of two hundred, at Wausau. I put in three cions the first year, and then about two more the

second season. The smaller the limbs are the better for grafting. You cut the cions in the fall, and keep them until a fit time to graft. The trouble with budding is this: You do not know when the right time is. The bud must be matured enough to give it strength to grow, and if you wait too long the bark on the stalk will stick to the tree.

Question—I would like to ask if you would take the Virginia crab from the nursery and top-graft it?

Mr. Philips—If you take it only a short distance from the nursery, but as a rule it is safer to wait until next year.

Mr. Kellogg—I would like to say that the temperature in Rock county aggregated 327 in 37 days, while at Wausau it was 599. That is government temperature.

CULTIVATION OF BULBS FOR PLEASURE AND PROFIT.

By L. H. Read, Grand Rapids, Wis.

The two great aims of life that actuate most of our movements are pleasure and profit. And whatever we undertake to do, we first endeavor to find out if it will give us either pleasure or profit, therefore we hope that this paper may bring to your attention an industry which has been neglected in this country, but which has become a national industry in the little kingdom of Holland.

Holland bulbs have become a standard article of trade the world over. But why Holland should be allowed to grow bulbs for the whole world I am unable to understand. There are certainly many places in this country where bulbs may be grown very successfully and growers are beginning to find out that American grown bulbs are the equal, and in many respects, the superior of imported bulbs. A gentleman in Ohio told me last winter that he could buy no daffodil bulbs the equal of those he could grow himself.

Only a few years ago large quantities of gladiolus were imported, but for a few years past the growing of them in this country has developed to such an extent that American grown bulbs are now exported to Europe. One firm in Ohio grows 1,000,000

gladiolus bulbs per annum, and another grower in that state nearly as many, but there are several growers on Long Island who grow even much larger quantities. One grower in New Jersey had over 30 acres of dahlias last year, and several others in different parts of the country also grew large quantities, but yet there is room for more growers, as large quantities are imported from Europe.

Holland exports annually two million dollars worth of bulbs, of which England takes one-half, Germany and the United States each to the value of \$300,000 and France and Russia each about \$200,000. It has been stated that the New England states use from one and one-half to two million tulip bulbs annually. You will see by these figures that there is a constant demand for bulbs of all kinds, but the question you will ask first, I expect is, Can we produce them in this state at a profit? for I am sure you will all admit that there must be pleasure in growing a crop that produces such a bountiful display of flowers of such varied colors.

I am sure that there is a large variety of bulbs that can be grown with profit in this state if we first study their habits and learn how to treat them to get the best results. My own experience has been mostly with the dahlia and gladiolus, and of those I will speak mostly, as I know what can be done with them.

The gladiolus increases quite rapidly in two ways, by division and by the small bulblets that grow around the bottom of the old bulbs or corms, as they are now properly called, and these small bulblets will make blooming bulbs of the first size in two to three years. They will grow in any good soil, but a rich sandy or sandy loam soil is best adapted to their growth. It is no more work to care for an acre of them than it is to care for an acre of onions. The setting of them is a little tiresome, and the digging in the fall is rather slow work, but not as hard work as usual farm labor. One hundred dollars' worth of bulbs and bulblets planted in the spring will produce from \$400 to \$600 worth of crop, and if one has a local market where they can dispose of the blooms at a fair price, they can sell from \$25 to \$50 worth of cut blooms or about enough to pay for all the cost of growing. What other crop will do better upon an acre of ground?

Dahlias will perhaps do as well or even better, but will require nearly double the value of stock to set an acre, but the increase will be from 4 to 6 fold, and the crop of blooms even more abundant if not allowed to suffer for lack of water. An acre or two of good land supplied with windmill and tank so that at any time needed they could be given a good irrigating, would make either of these bulbs produce even larger returns than mentioned above.

I am trying an experiment this season with both of these bulbs upon black muck soil that has been thoroughly sanded. This soil much resembles the substance being sold under the name of "Jadoo fiber," and used for potting purposes by greenhouse men. So far I am much pleased with it and think it will prove a success, if I can keep it from being flooded. We are having so much rain this season in central Wisconsin that sometimes it seems as if we would have to turn fish or duck to keep afloat, but I suppose it is only trying to even up those seasons past when we were drying up for the lack of rain.

Now, I wish that every member of our Society who has had experience in growing bulbs of any kind would report through the magazine their successes and failures with the different kinds, so that all could learn more of this industry. I believe that tulips and lilies of many kinds can be grown in this state with equal success and many of the narcissus family.

How many of you know that the old-fashioned daffodil makes one of the finest bulbs for winter forcing, and is much more satisfactory than tulips for that purpose. I want to ask any of you who have a bunch of them forsaken and grown up to grass, to dig them up this fall after the leaves die down and save a few of the largest for potting in October, and to set the balance in some place in the garden where you can give them good care and cultivation. Set them singly in a row about three inches apart, then next year dig them up again and note the increase in size and number of bulbs and report the same.

It is no more work to keep these bulbs in a good cellar than it is to keep potatoes in good condition, but cellars should not be too dry or too moist. The canna is another plant that increases its bulbs much faster than either dahlias or gladiolus, but it is much more difficult to keep them over winter, as they must be kept dry and several degrees warmer than other bulbs, and one

need not be surprised if they find their canna bulbs all dead in the spring. But gladiolus and dahlias, if properly dried and cured in the fall, will keep as well as potatoes.

If you are interested in this line of work commence a few experiments on your own hook, and I am sure you will find that they will pay you as well or better than strawberries, and will not have to be rushed to market in a few days, just when you have a thousand other things to do, or when you want to go to the summer meeting and can't get away because you must look after strawberry pickers and see if you can get enough out of the strawberry crop to pay for boxes and picking, or not.

A few dollars invested in bulbs will give you a chance to experiment and study the business and, if properly cared for, will in a few years grow into a stock large enough to bring in a good income each year.

Question—Where does he find sale for his bulbs?

Mr. Perriam—There is no doubt as to the profit in raising bulbs, but you must have a market for them. There is too much competition with Washington and Florida. There would not be much money in it. It is not correct quite that cannas are hard to keep. I have no difficulty in keeping them. The chief objection to raising bulbs is that it costs quite a little to start a bulb farm.

Mr. Coe—Mrs. Becker said that the iris never killed. We lost 2,000 of them this last winter. We had no snow and the winter was severe.

Mr. Smith—Our cellar is good for ordinary purposes, keeping potatoes, yet our cannas were always killed.

Mr. Floyd—I understand from a greenhouse man that cannas must be kept at a temperature of 50; anything approaching 32 is detrimental, and it must not go above that. My son in Arkansas kept cannas in his basement, and he used to sprinkle them a little occasionally. His basement was quite warm but his cannas always came out nicely. Greenhouse men in Oshkosh keep them under their benches, and take them to keep for outsiders through the winter. Cannas want very little moisture. They must be sprinkled to keep them from getting too dry.

Mr. Kellogg—Touching the statement in regard to peonies, I supposed that nothing would kill them, but this spring we found every one of our red peonies killed, and some of our white. In well cultivated ground they kill worse than in blue grass sod.

Mr. Smith—Our peonies came through all right, but some of our roses died. We have a Marshall Neil rose on our place, about the height of this ceiling, and it has never had a flower on it. It has never winter killed. How can we get flowers on it?

Mr. Coe called for—Do I understand that this Marshall Neil rose is out of doors? It is a house rose, you know. I do not think it is the Marshall Neil, as that will hardly winter out of doors.

Mr. Floyd—It cannot be a climber then, can it?

Mr. Coe—Oh, yes.

Mrs. Becker—Perhaps it is not a Marshall Neil, and is ashamed to show what it might be. (Laughter.)

ORCHARD CONDITIONS IN THE SPRING OF 1899.

By Henry Floyd of Eureka.

The winter of '98-'99, in its extreme severity and long continuance, dealt the hardest blow to the fruit growers of this state they have ever received. Varieties we had regarded as iron clads for a long series of years have gone down in the crash, and hence must in the future be relegated to the list of tender or half hardy varieties and will not be safe to indulge in except by double working on hardy stocks, giving us less and riper wood to withstand our severe winters.

I recollect distinctly the comfort we horticulturists received from Mr. Underwood's paper at our last winter meeting, stating that cold did not kill. He claimed killing was due to a lack of moisture in the soil; he would have done well had he added heat.

I claim that cold does kill and kills by a repetition of cold, hard, thirty to fifty degrees below blows, and the more of such blows we get the more killing is done. I also claim that the absence of moisture in the soil facilitates the killing. We felt sure last fall that we had a good supply of water in the soil as winter set in, and also a good covering of ice and snow all win-

ter, in this quarter of our state, and yet we never had as much killing.

Hence I concluded that our great loss in trees was not due to a lack of moisture but to cold, pure and simple, from 20 degrees below to 46 degrees below, extending over a longer period of time and giving our trees more destructive blows than any previous winter that I have ever known.

In my first examination of fruit plants in the spring I was surprised to find so little apparent injury. I found inside bark and wood as bright and green as I could wish to have it. But after later developments of the effects of the severe winter we had to look for injury in other places than in last season's growth, hence we examined trunks of trees, expecting to find bark burst, but did not find a single case so far as search was made. We next examined roots; found large roots apparently good and green, but the feeders all dead. Hence, we conclude that the root must be the seat of the effects of our severe winter on our iron clads, that are stepping down and out, as such, this spring. Who will explain to us the philosophy of this killing, when in the same orchard Blue Pearmain, McMahan's White, Fameuse, Lubsk's Queen, Perry Russet, Yellow Transparent, Whitney, Scott's Winter, Newell's Winter, and others are in perfect health and vigor, while Northwestern Greening, Talman Sweet, Golden Russet, and others are either dead or so sick as to be regarded as past all hope of recovery?

The only variety of apple planted fifty years ago and now doing business, that I know of, is the Blue Pearmain. I know of seven such trees. This variety produces only in alternate years and is not a long keeper; it only lasts through January. The Brewer Seedling, an apple we had thought highly of, the original tree, is hurt on north side. It has had no care, never having been pruned, but has been a good producer, and a young tree grown from it shows vigor and some fruit set this year. This seedling is supposed to be from the Duchess of Oldenberg. I regard this seedling superior to Pewaukee in quality of fruit, a smaller apple, better keeper and not liable to drop as badly. The Sweet Fameuse tree appears as vigorous, or more so, this spring than usual; the abundance of rainfall that we have had is suited to its dry location.

The outlook now for apples in this state and some others, for this season, in my judgment, will approach more nearly to an apple famine than any year I can think of. Insects are making the harvest now.

President Johnson—This paper is now open for discussion.

Question—How old is your young Brewer Seedling?

Mr. Brewer called for to answer question.

Mr. Brewer—It must be some 6 or 7 years old.

Question—Has it ever fruited?

Mr. Brewer—Not until this year.

President—Our next subject is along this same line.

Mr. Coe—Mr. President, Ladies and Gentlemen: It is the easiest thing in the world to tell you all about it. It can be told in two words,—“wide-spread ruin.” Ninety per cent. of all the apple trees around Ft. Atkinson are dead. We had severe killing at the time of our winter meeting and Uncle Tuttle said, “I am glad of this. We will now find out which are the tender varieties and which are hardy, and if we judge from the appearance of our orchard, there are none hardy. The Sweet Russett is the only one that escaped destruction. We ourselves lost in the nursery row about 25,000 trees. In the orchard 95 per cent. are dead, and the other 5 per cent. are sick. Prof. Goff examined our trees. I told them they were dead. He said, “Oh, I guess not.” He took out his knife, and found them green. I told him that the roots were dead though. He could not believe it. He got a spade, and upon examination found the roots dead. Some of the trees were 10 years old. So I can say that the orchard conditions in southern Wisconsin are not exactly encouraging. But the trees are not all, we lost all of our Iris, too, and the roses are gone.

President—This subject is now open for discussion.

Mr. Philips suggests that Mr. Coe take care of the two remaining Virginias. Laughter.

Mr. President—Mr. Tuttle told me that the root killing was something he had never seen before. In Mr. Tarrant’s paper, read this morning, you will remember he said that where the roots were not killed, it was usually the roots near the surface,

Question—I would like to ask Mr. Coe about the snow fall around Ft. Atkinson.

Mr. Coe—We did not have any snow until in March.

Mrs. Treleven—Do you think that the heavy bearing of last year had anything to do with the winter killing?

Mr. Philips—Yes, ma'am.

Mr. Coe—No, sir. We had a thousand trees that never bore an apple and are now dead.

Mr. Smith's paper called for.

Mr. Smith—Mr. President, it is the other Smith on this program. We have but a few trees in our back yard and they seem to be all right.

Mr. Philips—Have you a furnace there? Laughter.

Mr. Perriam—How often does this very destructive killing happen in Wisconsin?

Mr. Philips—About every 12 or 15 years.

Mr. Perriam—In Illinois we calculate once in 20 to 25 years. The practical question is what are you going to do about it? Is it not a fact that the first ten years of bearing are the most profitable in an apple tree?

Mr. Philips—Yes, sir, set trees. This is a good spring to set trees, but be sure to set good ones.

President—I did not lose my Longfield, but my hickory were killed.

Mr. Floyd—I believe that if I lived in Mr. Coe's country, that I would have saved a few apple trees by mulching near the roots.

Mr. Coe—When would you have done it?

Mr. Floyd—Before the freezing took place.

Mr. Coe—We did not know when it was coming. The dust was blowing there all winter long.

Mr. Philips—If Mr. Coe had had snow, as we had, 2 feet or 2 1-2 feet, there would not have been that root killing.

Mr. Coe—I talked with Prof. Goff, and he has several hundred letters which he received in response to a circular letter sent out, and where they reported "no snow" the trees are dead. The freezing dry killed the roots of the trees. Where they had 2 or 3 inches of protection the trees were not killed.

Mr. Kellogg—Mr. Coe has drawn a very dark picture of

the condition of the orchards. Last spring while I was driving from Lake Mills to Janesville, I noticed all along, the older the trees, the less the loss. Ten or twenty per cent. of the old trees are dead, and from thirty to fifty per cent. of the younger trees which have been set out in the last three years. Mr. Coe's picture is a little too dark, excepting for his locality.

Mr. Babcock says that there are trees in his locality that are blossoming for the second time.

Member suggests that Mr. Babcock look closer before making such a report. Laughter.

Gentleman—There is a tree two miles from here, at Loafer's Corner, the east half of which is full of foliage, and the west half is full of bloom. The side that is full of bloom has not a bit of foliage and the other half has no blossoms.

President Johnson—As the condition of Wisconsin orchards is not a very pleasant subject at present, I would call on Mr. Perriam to change the subject.

Mr. Perriam called for to talk on Market Gardening.

Mr. Perriam—When I first commenced market gardening 50 years ago, I could not get pots for our hot beds. So I studied up what was the next best thing. I took siding and fencing 3 feet long. Then you have a line 6 inches wide and 6 inches deep throughout your whole bed. (Mr. Perriam explains by a berry box how the trough is set at a right angle, the side of one trough forming the side of the next one and so on. Just as soon as the plants make their third leaf, then is the time to transplant two or three inches apart into these troughs. Now, the fact is that there are many people who do not know how to transplant. A man who knows how to transplant lettuce can plant 10,000 plants in one day. Lettuce was our principal crop in winter. We have fruited squashes in those troughs. Now, to demonstrate this, I went to the trouble of bringing the result of 9 weeks' work on my new place. On the 10th of April I planted cupid peas, pansies, egg plant, radishes and lettuce, pepper and cucumbers. The cucumbers were put in a frame and covered by a cloth. I have a border of petunias of 240 feet filled with bloom like this. Pansies planted 9 weeks ago I have the bloom from, and you know that it is three months' time that the pansies want. Of course I only have one plant in a hundred that is

blooming. There is much in this trough business. There is no breakage of pots. They will last five years. I can move a whole range of hot beds, taking the troughs out singly one by one, and they do not know that they have been moved. I used to put them in a wagon and carry them off a mile and then transplant. My garden of 100 acres there was rather long, and I never suffered any from transplanting. I could beat the gardeners, tinkering with pots, by about a week. It is simple and practical, even to those who want to have but a few flowers or early vegetables for early market. Here is an early aster. I brought this because the grasshoppers have eaten the foliage so badly. I want to buy and take home with me some young chickens from here. Laughter. When you move your plants finally about the 1st of June you have your crop three-fourths made. You have done all your work right in the compost that you have grown them in. That is why I can bloom cucumbers in 36 cubic inches of soil, whereas the pot is round, and you lose that much soil as it tapers toward the bottom. I use moss for drainage. Here is a chrysanthemum (refers to specimen of plant). This is the result of my 9 weeks' planting. Now, if I can do this in 9 weeks, any one else used to handling plants can do so. I have egg plants nearly in bloom. I have tomatoes in bloom, peppers 8 inches high. There is another thing about transplanting. I have a flat trowel, and if there is an interlacing of roots, I get every root. Mr. Perriam explains the construction of the trough. Three feet long. The siding is used on the side of the trough and the fencing on the bottom.

Mr. Brewer—How do you prepare your soil?

Mr. Perriam—I use a good heavy loam, and a little humus muck, if you can get it. Prairie loam, if you can get it. If you have plenty of cow manure use one-fourth of that. You must know how to sow your seed. Petunias are so pretty, especially when frilled. The seed is so small you can hardly see them. I do not cover the seed at all. I simply press it into the soil. Now, if you will all try this simple way of planting, without going to the expense of getting pots, you will see by the first season's work how much you have saved, both in hard work and weeding in adopting this plan.

President Johnson—I will name as a committee on Flowers:
Mr. Geo. J. Kellogg, Mrs. Barton, Mrs. Brooks.

Vegetables: Messrs. Babcock, Single and Layton.

Adjourned.

Thursday A. M.

Meeting called to order by President Johnson.

Secretary Philips reads awards.

Mr. Kellogg—I move a vote of thanks be extended to our co-worker, Mr. Perriam, of Chicago, and an honorary membership to this Society.

Motion carries.

REPORT OF FRED HARDIN OF WEYAUWEGA.

We lost five trees, one Repka, two Raspberry, one McMahan top-worked on No. 20, and one Wisconsin Spy.

There are three trees that were injured quite badly, one Hartshorn, one Mary and one Forest. The last named tree (Forest) every bud on the tree was practically killed and thought it was dead, but the first of this month it commenced to sprout out. Nearly one-half of the tree is now in leaf and I think the tree will live. The remainder of the orchard is in good condition.

A few of the trees have a small quantity of apples on them. Some of them are, Duchess, Wolf River, N. W. Greening, Morris, Patten's Greening, Okebena, etc. Of the Russian cherry trees all are in good condition, with the exception of one tree, George Glass. The following will fruit this season: Lithauer, Wetchell, 23 Orel, King's Amarelle, Spate Amarelle, Double Nattle and Sklanka.

Our black raspberries Gregg will give us a full crop. They were not protected. Red raspberries killed back to snow line; also blackberries.

Strawberries will be about one-half to two-thirds of last year's crop.

THE BRUSH-HEAP OF 1899.

E. S. Goff.

Prof. Goff—Mr. President, Ladies and Gentlemen: I feel as though I have an apology to make as I did not finish my paper, and I did not write on the subject that I gave to our secretary. I started to write on the brush pile, and then it occurred to me that it is not what we cannot do, and what we have lost, but what we can do and what we have left that is the most sensible thing to write on. I suppose that most of us know that the southern part of Wisconsin, all of the northern part of Illinois, and part of Iowa, was without snow during that remarkably cold weather in February. I have been studying much to see what the effects have been of that peculiar condition. I will give you a little report of our experimental orchard, but I will report on what is left of it, and not what we lost of it. I will read what I have written, and then I will talk a little longer.

After giving my subject to our secretary it occurred to me that I had not chosen the right side of the question. It is the positive facts that are most helpful in this world—not the negative ones. What the fruit grower of Wisconsin most needs to know is not what varieties cannot be depended upon for our state, but those that can be depended upon. It is these that he must plant and care for, and fail or succeed with. I have, therefore, decided not to give you the inventory of our brush-heap, but rather to recount the varieties that have survived the past winter, which was exceptionally trying in southern Wisconsin where no snow was present during the severest weather. I therefore went through our orchard and separated the trees that survived the past winter and that give promise of surviving the present season, as nearly as I could into four classes. The first class includes those that seem quite unharmed by the winter and are making a vigorous healthy growth; the second, those that are doing well, but are making too little growth; the third, those that are making very little growth, but yet appear to be in good condition; and fourth, those that, while they promise to survive, have not as yet developed their normal number of full grown leaves.

Our experiment orchard, as some of you know, is located on a north slope, moderately steep, on which the soil is a light clay loam, underlaid at a distance of about 3 feet with sand. The trees are of various ages, from one to eight years, but the trees less than three years old are not, as a rule, reported in this list. A considerable number of the trees are top-worked. The ground was cultivated last season until the latter part of July when it was sown with sapling clover. The ground at the beginning of winter was rather dry, though perhaps not drier than it had been for several autumns previous.

It is of interest that the younger trees survived rather better than the older ones.

Of the apples I have enumerated in the first class Virginia crab, No. 8, M. (Russian), No. 18, M. (Russian), Hibernial, Hoadley, Crampton's Seedling No. 3, Cross (Russian), Duchess Seedling Nos. 1 and 2 (Morgan), Hybrid Seedling (Barnes), Antonovka (Russian), and Isher Wood; the latter top-worked on Milton or Lake Winter crab.

In the second class I have placed Chester, Seedling Dartt, Seedling 26, Dartt, Minnesota crab, St. Johnsbury Russet, Charlamoff, Continental, Prunus, Noblesse, Shield's crab, No. 2 M. (Russian), Gros. Mogul (Russian), Gideon, Duchess Seedling No. 3, Morgan, seedling from S. I. Freeborn, Early Sweet (Russian), Crimea Bog (Russian), Anisovka (Russian), Borovinka (Russian), Bogdanoff White (Russian), Crampton's Seedling No. 1, Bogdanoff (Russian), Bethel, Blummer, Excelsior and Pioneer.

In the third class I have placed Pensaukee Russet, Dartt's Hybrid No. 3, Downing's Winter Maiden Blush, Native American, Milton crab and No. 12 M. (Russian).

In the fourth class I have put Patten's Seedling No. 6, Dartt's Hybrid No. 5, Twenty Ounce, Avista, Martin, Talent, Hotchkiss Greening, Randall's No. 9, Grocery, Dartt's Hybrid, Nellie, Striped Winter (Russian), Buckskin, Wealthy, Gilbert, Seedling from W. H. Guilford, Baldwin Seedling, Dartt, Hartman, Saxton, Bloomfield, Minnetonka, Ostrakoff, Matthew, McIntosh Red, Longevity, Upham, Dark Red, Politic, Seedling from A. M. Johnson, Grisley, Murphy's Greening, Arabka (Russian), Venus, No. 9 (Gideon), North Star, Newport Winter Sweet,

Grundy, Randall's Best, Hazenkoff, Babbitt, Kauinnaird's Choice, Oldenburg, Iowa Beauty, Duchess Seedling, Walker, Golden Reinette (Russian), Getman, Garfield, Dale Greening, Extra Early, Seedling E. O. (Dartt), American Codling.

The brush-pile list I will not read, but it is longer than any other except the fourth.

Our pears were mostly destroyed by blight last season. Of the few left, Vermont Beauty and Sudduth look best, and Wilder and Pepper's No. 3 look fair.

Of cherries, King's Amarelle has already matured a fine crop of excellent cherries, Dyehouse, Large Morello, Late Morello, Geo. Glass and Lutovka were very little injured except in the loss of a small part of their flower buds. Beander, Orel 23, Orel 27, Bessarbian, Early Griotte, Strausse Weischelle and Griotte du Nord have suffered more seriously, individual trees of some of these having already joined the brush-heap, and more will follow.

Of plums the Americanas are all right, with the exception of one tree of the Quaker, which is marked for the brush heap. Our crop of Americana plums will be perhaps the largest we have ever had. Of the Europeans, Orel No. 20, Russian, is bearing the most fruit. Moldofka, with its synonym, Yellow Dame Aubert, and Orleans look well; Green Gage and Weimetz seem not badly injured but are bearing no crop, while English Damson, Orel No. 19 (Russian), and Bradshaw have suffered severely; the latter two will not survive. Of Japanese plums, Berckman's, Maru, Burbank and Strawberry look best. Abundance is badly injured and Bailey will die. The Pottawattamie plum (Chicasaw), which has never missed a crop before, has one tree entirely dead and the other without a fruit.

Raspberries, where protected, escaped with very little harm, and all varieties are bearing well except Eureka.

The "Tree" blackberry is entirely dead, and a plat of Ancient Briton, one-third acre in extent, was practically a total loss, though a row of the Ancient Briton in the variety plat escaped with little harm. Barnard, Bonanza, El Dorado and Bangor all look pretty well; Loganberry is badly damaged.

Columbus, Industry and Triumph gooseberries are badly damaged; other varieties and all of the currants seem uninjured.

Of the grapes, Worden, Massasoit, Rustler, Ebony, Monitor,

Green Mountain, America, Brilliant, Solinrup Colerain and Potter's seedling are least injured, and Rochester, Niagara, Rogers No. 33, Rutland, Early Ohio, Mills, Moyer and Bertha are severely injured. Empire State and Marie Louise are dead.

Prof. Goff—So much for my written list. Now, the question arises, Why is it that the Duchess apple, and some others that are supposed to be iron clad, are among our poorest? I cannot answer it. Why is it that the hardy ones have died and some that were not as hardy, have lived through? Can we depend upon this past winter as a test winter? It seems to me that the records are broken. There are some valuable points that have been brought out, however, not only in my own experience, but in my correspondence with others. We have had over 100 letters from Wisconsin, Minnesota, Illinois, Iowa and Manitoba. While there is much confused testimony, there are a few points which I think are really valuable. One is that wherever trees were grown on crab stocks, in comparison with other apples, the crab stocks have stood decidedly better. Why are we planting common apple seeds and crown grafting and budding our apples on the common stock? Why not work them on crab stocks? This last winter has proven, it seems to me, that crabs are decidedly hardier in the root than the ordinary apple. This past winter certainly teaches us that we must have not only a hardy top, but also a hardy root. Is there any particular objection to using seedlings of the crab instead of seedlings from the common apple? The seed might cost us more perhaps. This peculiar condition, though, may not occur again in 20 years, but we want to fortify ourselves against it. Nurserymen cannot afford to have their full stock wiped out, as has been done this season in some cases. This is an important point. Another point brought out by the correspondence is that the reason for the wide-spread destruction of roots was not only the dry condition of the soil, but the fact that there was no snow on the ground. Last week in Chicago Capt. Watrous read a paper on the Destruction of the Root, and said that the reason was that they had had a very heavy rainfall at the beginning of the cold weather, that the rain turned into a blizzard, and that the excessive water caused the killing. My correspondence shows that where there

were two inches of snow on the ground, the trees did not suffer at the roots. Where there was snow during February, there was no killing to speak of. Our apples would have survived if we had had snow in February. Another point brought out, is that the raspberry is vastly hardier than the blackberry. There is one other point that I wish to speak of. During the spring of '98 I made a careful examination of roots. I found in every case that I examined that the roots started from the tip. That was new to me, because I had the idea, gathered from nursery-men and others that the fibrous roots always die in the winter, although I had never found this in books that rank as good authority. This year the condition is reversed. Except in the hardiest stock, nothing started from the tips. The amount that the roots killed back depended on the hardness of the species. The only instance that I found the roots alive to the tip in the apple, was in a single specimen of the Whitney crab. I found trees of the Virginia crab that were alive almost to the tips within 4 inches or sometimes within 2 inches. On many of our cherry trees we dug for a considerable time before we could find a live root, even of trees that had leaved out, bloomed and set fruit. It would sometimes take 15 minutes before we could find a root that was not dead. The same was true with our pear trees. We would wash with our hose, and find the roots to be black and red clear through. The growth on most of our apple trees has already stopped. Whether or not it will be resumed, we are watching to see. It looks as though the effects of last winter will remain for a long time. What the ultimate effect will be, I cannot say. If we have a dry season there will probably be great destruction even after this. Many of our trees are now beginning to wither. If we had had six weeks of drought, I should not be surprised, but after all the rain they have had, they ought not to wither now.

CURRANTS.

By H. H. G. Bradt, of Eureka.

From our experience we will give a few hints on the cultivation of the currant. First, never plant a sucker, and to prevent to a great extent the suckering of slips is to remove all buds from the portion of the slip to be inserted in the ground.

The slips should be taken from the top of the most vigorous new wood of the summer's growth; make a clean sloping cut. Have the slips eight inches long; plant in loose, mellow soil; pack the earth well against the cut, leaving one or two buds out of the ground. Sometimes, if planted in the fall the frost will throw them out and if they have rooted the fibres will be severed. We have always had the best success planting the slips in the spring, but this must be done very early.

Another method is to cut slips and tie into bunches; then bury them until the cut ends are calloused, then transplant, but we never know certainly when to take them up. If roots should be formed on the callous they will break off, which injures them. At two years of age transplant to good clay land, well tilled. If possible, have it under-drained, dig holes seven feet apart, have them 20 inches or more deep and as far across. Then haul the prime manure, of which throw three generous shovelful to each hole. Three rows can be supplied by one drawing. Two of these shovelful should be put in each hole. Then fill up with loose dirt; in this force the spade; in the hole made, place the plant well down; put in more dirt and give them something to drink,—nothing better at that time than unadulterated Adams' ale. After the water is absorbed firm in dirt, and mulch with the balance of the manure, as there is a tendency of the roots to come to the surface, aided by the never-dying efforts of your good neighbors' fowls; regarding them you must exercise due vigilance.

July mulching is of great advantage to prevent scalding and premature ripening. Another good heavy mulching should be given in the fall to keep their feet warm during the long months of winter, maturing the new wood more surely and improving the next crop of fruit.

Four canes are enough to leave in a hill,—better we think than to prune to a single cane. Winds and borers frequently destroy the single-legged bushes, which is a loss of time and fruit.

That is my method of handling the plants and by doing so they will prove serviceable longer than the common span of man's life. It is an excellent plan, as soon as the leaves begin to form on the bushes, to sprinkle them with a mild solution of Paris green, to anticipate the never-failing appetite of the worm. This cannot harm the fruit, as none has formed at this time. In nine cases out of ten this application will prove sufficient for the season. Should rain fall soon give them another sprinkle. Lice come later and are indicated by the crumpled leaves, rendering them unsightly. Give the bushes affected a good dusting with hard wood ashes while the dew is on, but hellebore will prove entirely effective.

Of varieties we have tried many and say, Try but few. For all-round purposes too much cannot be said in favor of the Red Dutch and the White Dutch. They give me greater yield in weight to bushes of a given age than other kinds. For jell and jam the white Goindoin proves most superior. The seeds are small and the pulp has less acidity than other kinds. The White Grape currant is fine and of the same species as the Red, but are chiefly grown for home use, as the market demand for Whites is very limited.

Of the Reds the Cherry is very large and dark, large seeds and very sour. The Fays are larger seeds, smaller pulp, not so acid and yielding some better, but the bushes sprawl badly. The Victoria is smaller, bears well, with monstrous wood. The buds have a peculiar bluish gray tint. The fruit hangs on a long time. The North Star is a fine large berry, pulp mild; Versailles same. The Ruby Castle, to my liking, has, when ripe, the finest flavor of any currant I ever tasted. It is like the White Dutch, very delicious. Like the North Star, it is stocky and easy to pick.

Now, I do not think that you should go any farther for family or commercial purposes, but as amateurs you may find it interesting pastime to try the numerously increasing fancy sub-varieties.

To conclude without a reference hardly to the sweet, wild or flowering kinds or others originating in America, I will give these maxims to guide:

Do not crowd the bushes.

Feed them well.

Thin severely; excessive growth of wood proves antagonistic to fruit production.

President calls for discussion.

Question—Have you tried the Crandall tree currant?

Mr. Bradt—I have not. In speaking of the distance, it occurred to me that perhaps some of you think that is too far. I find that the roots of my White Grape run five feet, and of course they must draw a good deal from the soil. I, therefore, plant seven feet in the rows and seven feet between the rows.

Mr. Smith—I would like to ask if you do not have the worms on your currants much later than when the leaves are first coming on. You say that one sprinkling of Paris Green is sufficient.

Mr. Bradt—If you keep your garden clean, you will not be troubled with them every year. I have always found that one good killing in the spring will be sufficient.

Mr. Smith—I have to go over our bushes three, four and five times in the season with hellebore. They were not as bad as this year as formerly. In reference to distance, we have most of ours six feet apart and the limbs interlace considerably, so that we cannot do horse-work amongst them at all.

Mr. Becker—I never found the currant worm until the plant is in full leaf.

Mr. Smith—The eggs of the currant worm are laid by a fly on the under-side of the limbs on the leaf. First they take the young shoots, and they usually come first on the Holland. They will strip the Holland clean before they will touch the Prince Albert. As soon as they are hatched out, they turn to the side and begin to eat a hole in the leaf. The flies come in millions,—the number of perhaps 100 males to one female. The male is much more slender and not over one-half the size of the female. The worms do not migrate.

Mr. Philips—Do they lay their eggs on any other besides the currant?

Mr. Smith—On the gooseberry, perhaps.

Dr. Loope—So far as we are concerned, we have not been troubled with the worms, as we have very few currants. The reason that I never raise currants is because they are the cause of appendicitis. Laughter.

Member suggests that the Doctor begin to raise them to further the interests of his profession. (Laughter.)

President Johnson—My experience has been that they eat the Long Bunch Holland first.

Member—They generally begin on one end of the row.

Mr. Smith—They do not do that with us.

Mrs. Treleven—Some seasons they are worse than others. We use two applications of hellebore. This season we have been over them four times, and I hardly think I have conquered them yet.

Mr. Smith—Perhaps some of the audience are laboring under the idea that you exterminate the flies with the hellebore. The flies which lay the eggs you do not exterminate. It is only after they are hatched out that you can do anything. As the flies continue to lay eggs for a number of weeks, I do not see how you can destroy them with one or two applications. They begin when the plants are only half grown, taking the most tender leaves.

Gentlemen from Eureka—I have a few nice rows. We have about 75 to 100 hens, and they go up and down these rows hopping around there, and I suppose that that scares the flies away. We have had no trouble so far.

Mr. Bradt—There is an objection to using Paris Green. If a little mite of it should strike your currant, it will cause a white spot to form on the currant.

President—Do you use Paris Green more than once on your currants?

Mr. Bradt—Sometimes twice.

Member—Sulphur is a good thing to use. Use two table-spoonsful in a sprinkler of water.

Mr. Philips—Now, in regard to using this poison on the currant. (Tells story about farmer who after experimenting with it on his currants, gave the fruit to his wife first to see what the result would be before he ate any of them. Laughter.)

THE WINTER OF 1898-1899.

By Geo. J. Kellogg, Lake Mills, Wis.

In reviewing the past winter it will be of little use unless we can profit by our losses.

What were the conditions that wrought such havoc with our garden pets and pocket books? Here is the record of the rainfall for the months of September, October and November for the past 21 years: 1878, 27 7-8 in.; '79, 15 7-16 in.; '80, 13 1-2 in.; '81, 19 5-8 in.; '82, 6 1-8 in.; '83, 9 1-4 in.; '84, 8 3-4 in.; '85, 14 1-8 in.; '86, 13 in.; '87, 12 5-8 in.; '88, 5 1-2 in.; '89, 6 3-8 in.; '90, 17 1-4 in.; '91, 14 1-4 in.; '92, 8 in.; '93, 10 1-2 in.; '94, 23 1-2 in.; '95, 5 in.; '96, 18 1-4 in.; '97, 5 3-4 in.; '98, 8 1-2 in.

For six years of the twenty-one the rain fall was less in the fall months than last year, and those of you who have data will probably be able to trace your winter losses by root-killing to the winters following those dry falls; still a dry fall may be followed by heavy snows, winter rains and January thaws and prevent any injury.

Will winter mulch save us from loss after a dry fall? No, if the summer has been dry and the winter should be severe and without snow. The severity of the winter may affect what is above ground but drouth is the cause of root-killing. The continuous evaporation by dry winds and low temperature, with no snow or mulch will draw what moisture there is in the soil and the roots must die, as was the case last winter. The winter of '84-'5 was much lower in temperature and the loss above ground was greater, but because of the snow the root-killing was very light, while the rain fall was nearly identical with '98.

Never that we know has frost penetrated in Wisconsin to the depth of 7 feet before. This is owing to the bare ground and continuous freezing and not to the extremes of temperature. Cultivation, mulch and winter covering did not save anything. As a rule as many things in blue grass sod came through better than in cultivated fields and gardens.

The loss to the state in the horticultural line was greatest in

apple trees in nursery and in newly planted orchards; next the loss of grapes in vineyard of any age. The loss in roses is irreparable. Herbaceous plants, climbing vines, flowering bulbs, blackberries and raspberries were badly injured. In strawberries it is a good cleaning out. The wonder is that any fields are left. Some plantations are so injured that the crop will be worthless, while all beds have not the vitality usual. The good culture and good mulching in this fruit gave comparative returns and shows conclusively that we do not mulch heavy enough as a rule.

I said mulching would not save us after a dry summer and dry fall, but I have the report from Minnesota where one plantation of 20,000 apple trees one year old were saved by mulching at the rate of 20 loads to the acre, while all two and three year old trees left unmulched, died. I have found considerable difference in loss of nursery trees whether they have taken root from the cion or are entirely on the apple seedling. I find the free-rooting crab stock escaped much the best, but all are injured. What I would like to know, has any one any crab seedling stock, Vermont seedling stock and the French stock grown and tested side by side and showing any difference as to root-killing? Have we not got to save our hardy northern seeds for northern hardy trees and use them for our root grafting. The hardy varieties, such as Hibernial, Duchess, Patten's Greening, etc., all came out just as dead as the half hardy kinds. Everything to Jonathan and Ben Davis wintered above ground, but the roots all shared the same fate.

Experiments will be tried September next by sowing buckwheat, oats and rye in nursery trees as a winter mulch; also stable manure at the rate of 10 loads per acre.

If we have any experience along this line let us have the benefit of those who have escaped loss for those who suffer.

The greatest loss by the Ripon nurseries in root-killing (53,000 apple trees) was the winter following the dry fall of 1895.

After comparing the rainfall taken by myself with the Weather Bureau at Madison, Milwaukee and Harvey in Jefferson county, I am led to the conclusion that my record is in some years over-stated, probably because I had no rain gauge and

caught in pails and did not allow enough for the flare, but the comparison of years will be near enough for all practical purposes. A number of falls the record at Madison is greater than my record. Rainfalls are local, and while a dry fall may indicate danger, the winter following may be such that no damage may occur below ground. It will be seen by my published records of the winters that there is no key to the future by what is past. "Our hindsight is better than our foresight."

Make the best preparation we can and plenty of losses will occur. Keep everything well tucked up and in good order.

Ex-President Kellogg—I have not written a paper, and what I have to say will not detain or entertain you for a great while. The outlook for small fruits at Ripon is not as favorable as it has been some seasons. The winter has been rather severe upon the small fruits, as well as the tree fruits. Our strawberry crop will be about half of what we had last season, many of the plants being severely winter killed. The raspberry crop is looking fairly well for the amount of bushes that are left. There is one noticeable feature, the blackberries are making very few canes for next season. The red-raspberries came through the winter nicely. The blackberry with us, where it was properly protected, came through the winter nicely and promises a fine crop of berries. The blackberry this year is more like the old-time blackberry than it has been for a number of years. It is more natural in its growth. While the acreage is very light, the crop of Ripon blackberries will be very good. I do not know but that there is an apology due for not preparing a paper on this subject, but we have been very busy for the past few weeks. I did not get a program until a week ago, when I found I was down for this talk.

Dr. Loope—What is the matter with the strawberries?

Mr. Kellogg of Ripon—Entirely winter killed. They went into winter quarters in fine condition.

Mr. Bradt—Are there any particular kinds of blackberries to recommend?

Ex-President Kellogg—The only blackberry that I would recommend is the Ancient Briton. Only one other and

that is the Snyder. Briton is much hardier but a poor berry to use for market.

Mr. Kellogg—Have you about half crop of strawberries?

Ex-President Kellogg—Yes, I should judge. Last year we had about two crops. The Warfield is showing more fruit than anything else.

Mr. Johnson—Is the Columbia killed? Is it bearing?

Ex-President Kellogg—When the spring opened we examined the Columbia and pronounced it dead, but now they are showing a very large quantity of fruit. They are just one mass of fruit.

Mr. Kellogg—How far did they kill down?

Ex-President Kellogg—Killed back to within 6, 8 or 10 inches of the main cane.

Mr. Kellogg—Was the main cane all right and alive?

Ex-President Kellogg—As a rule. Those nearer the ground were better protected and came through better.

Mr. Smith—How do you cover?

Ex-President Kellogg—I do not cover.

Dr. Loope—Do you protect your black caps?

Ex-President Kellogg—No.

Mr. Bradt—What is your exposure?

Ex-President Kellogg—It is pretty well exposed. At least it was last winter during the month of February. (Laughter.)

Mr. Kellogg—How about Cuthbert?

Ex-President Kellogg—Two year old Cuthberts killed back about half.

Mr. Kellogg—How about Loudon?

Ex-President Kellogg—Came through almost to the terminal bud.

Mr. Kellogg—Did you have any snow?

Ex-President Kellogg—We had about 4 to 6 inches in February.

Mr. Kellogg—I do not see why they died.

Ex-President Kellogg—The land was too loose, and dry freezing killed them.

President Johnson—At Baraboo the apple trees and the hickory trees died and the strawberries came through all right.

Mr. Bradt—When do you mulch?

Answer—Fifteenth of December; as early as November is beneficial.

Thursday P. M.

President Johnson calls meeting to order.

Mr. Philips—Since I have been secretary of the State Society I have made it a point to inquire, have talked to Mrs. Trelven about how we could get young people into the State Society. It is one of the hardest things to do. Up at Omro, when we had our summer meeting there, we had a young man come to our sessions who paid his dollar and joined the State Society. He staid through the whole meeting. They had quite a lot of nice girls around there, and I rather wondered what it was that brought him. I have thought about it much since. Last winter he sent his membership fee, also 25 cents for a large apple. I sent him a large one. After he had the apple a while, I wrote to him and asked him what he did with his apple. He said he gave it to his girl, who told him that she did not care very much for a young man who would give as much as 25 cents for such a poor apple. (Much laughter.)

President—Next topic on our program, "How Can We Induce Young Men to Join the State Society," by Mr. Frank Stark.

HOW SHALL WE INDUCE YOUNG MEN TO JOIN THE STATE SOCIETY?

By Frank Stark of Randolph, Wis.

I saw by the program that Mr. Philips had put me down to solve, if possible, this problem. I know Philips did it because no one else would do such a thing. So I have written a little in an attempt to fill the number.

How? Yes, that is a question with which older heads than mine could grapple unsuccessfully until the young men became middle aged men,—advance theories and plans by the quart or case and still this would be an open question.

Perhaps the time would not be entirely wasted if I should tell how I became a member of this society and the pleasures and profit derived therefrom, especially the pleasures.

At the time I joined the Society, two years ago at Omro, I knew nothing of it except from reading an old Annual Report; had never conversed with a fruit grower and my bed of strawberries of one-fourth of an acre, consisting of twelve varieties, was the largest patch I had, as yet, seen. Seeing a notice in our O. J. FARMER of a meeting of the State Society to be held at Omro, I drove to Ripon, thirty miles, arriving just in time to take the daily train for that place. The circumstances surrounding that trip I shall certainly not forget as long as I can remember them.

I was a stranger to every one, as was everyone to me. But before I left I made acquaintances to which memory frequently carries me back, with a warmer and more hearty regard for the people at large than I had hitherto felt or expressed. It seemed as though the people with the kindest hearts and purest souls had joined the society, or had they been made so by becoming members of it?

The little attentions paid me at that time, perhaps unnoticed by others, made a great impression on my rather youthful mind. How royally we were entertained, as if each one of us was a governor! The ladies were real kind to me, too, some even stopping to talk to me. One in particular I remember, who, at the banquet, offered to exchange her dish of ice cream for mine which was just about perfect. I soon discovered that my newly acquired cream had a peculiar taste which she had not detected. Of course she hadn't or she never would have traded.

How surprised was I when the announcement of committees was made with myself as one for judging vegetables alongside of Mr. Read and another man. I had raised garden truck for the family and could tell a vegetable oyster from a parsnip. Several hundred acres of peas are annually raised around Randolph, so I could tell a poor pea from a good one. On the whole we completed our arduous task after a fashion. Just ask Read.

And such berries as were there! I had never seen their equal, however have beaten them on my own grounds since, but perhaps would not if I had not seen those large ones there. It

rather made me feel that I could somehow do even better than Strawberry Kellogg of Janesville.

At the following winter meeting I observed new faces belonging to names which were familiar to me after reading the old report referred to. I have forgotten the name of the elderly gentleman from Minnesota but I shall never forget his kindly face and some of the things he told about plums. He seemed to know about all that was necessary to raise any variety of plum, yet used his microscope in his work as though he could always learn more.

I was driving through the country northeast of us several years ago and stopped at a place to get a large apple which was hanging on a tree hard by. It was the largest apple I ever saw. They told me it was an Alexander. I have since learned that our E. H. S. Dartt used to live there and propagated and grew those very trees. Away off up in the sand where a prairie farmer could scarcely raise a disturbance, or even an umbrella, were growing those thirfty trees, monuments of the man who had long since left for more fertile soils. The man of "girdle-your-trees-to-make-them-bear" fame could not have found a better place to plant trees. A man by the name of Hoenail now lives there but he never "nails" his orchard with his hoe or cultivator either.

The discussions at the annual meeting were sometimes spirited and sharp. If an agent for eastern grown stock had been there he would have been roasted. That reminds me of the urgent requests of our paper to increase the membership of the Society. I had such a chance once when a young man came to me asking about the society to which I belonged, thinking perhaps it was where I got the little I knew about fruit raising. He was an agent for an eastern firm of nurserymen. I treated the question as thoughtfully as possible. First I asked myself the question the Odd Fellows ask, only it was "Will he make a good Wisconsin horticulturist?" I said, No. He would always handle eastern grown stock and the Society would make it hot for him at Madison even at—40 degrees. I knew he couldn't be converted, he was Welsh. Do you think any one could make friend Philips believe he had been secretary long enough?

It was urged at one meeting that originating new varieties of berries be encouraged. This spring I noticed a small straw-

berry seedling between the blackberry rows which had wintered without protection of any kind except a little snow now and then. I was kind to it, tickling its roots occasionally which brought out its leaves rapidly. At blooming time it was so small it did not blossom, so I don't know whether it is staminate or pistillate. I have transplanted it and am inclined to believe it is pistillate as twenty-eight runners have started, up to the present time. Think this will bear watching whether it bears any berries or not. For a novelty I set out a high bush cranberry. It looked last winter as though something had tried to climb it. It has since died. Couldn't stand the climb it.

I might go on telling my experiences and failures but they are so far behind that they would be of use to no one. I know that I have been materially benefited by belonging to this organization. My horticultural horizon has been broadened very visibly.

There is this that can be done to induce young men to join the State Society. If they are interested in horticulture or beautiful nature, invite them to attend your meetings, give them the glad hand and if they remain awake during sessions they will certainly come again. Above all give them the glad hand. This rule does not apply to the young ladies.

Prof. Goff—It seems to me that something ought to be said on this subject. The Minnesota Society has 800 members, and we have just a scant 100. Why is it that we do not have the members, and why they do, I do not know. I wish I did. I confess I have not solved the problem myself.

Mrs. Treleven called for.

Mrs. Treleven—I would like to say that in our Society we encourage the attendance of young people, often there are half as many young people as old people. We work them in on our program. We put forth an effort to interest them and keep them there. It is often the case that the young men come with their horse and buggy, and bring the young ladies with them. We have no objection. We serve refreshments to them the same as to our older members. We are in hopes of having some of our young men join the State Society.

President Johnson—The strength of the State Society depends upon the local societies.

Mr. Kellogg—The secret of the success of the Minnesota Society is that they offer premiums, all the way from 50 cents up to their members. They offer a premium for new members. They are more public spirited. There has been a necessity for the growth of horticulture in Minnesota.

Mrs. Becker—I think it would be a good plan to offer premiums for an exhibit of fruit and flowers to the young school children.

Mr. Perriam—We are having much success through this plan in Illinois at the Farmers' Institutes. They offer small premiums for garden vegetables and flowers of every kind, and we think we have enjoyed a fair measure of success. We have got to work with the young people, and make it an object for them to become members of the Society. We have discussed this for 10 years in our Society.

President Johnson—Mrs. Treleven made a good suggestion. She said it is better to work them in on the program than to entertain them.

Mrs. Treleven—We find a growing interest among the young people. We had at one of our shows a boy who raised potatoes, excellent potatoes and exhibited them. We had children who had grown chrysanthemums. We offered prizes for this work, and it made quite an interest.

Mr. Babcock—I think that the best thing that the State Society can do to get new members is just what they have done here today and yesterday, and just what they did at Appleton,—hold their meetings in different parts of the state, and let the people find out what they are doing. I think it would be a good plan to hold the winter meeting at some place in the state instead of at Madison.

Mr. Kellogg—Mrs. Treleven is the committee to circulate the pamphlets and get the members' fees.

(Intermission of 10 minutes.)

Mr. Kellogg—We thought Madison was the best place, as we then meet with the legislature.

Mr. Babcock—We met with them last winter and got but \$300.00.

Professor Goff has a subject to present to us.

Prof. Goff—Mr. President, Ladies and Gentlemen: I find in going about the state that some persons have an inadequate idea of what our short course in agriculture is. I wish to explain this. We have found that the farmers cannot afford to send their sons to school in summer, and in order to give them an opportunity to come in the winter, we have provided a short course, so that a young farmer can come and attend fourteen weeks and then he can go home and come back and stay another fourteen weeks. The first fourteen weeks give him a broad knowledge of the various branches, and the second fourteen weeks give him a more specialized knowledge. This is not only book knowledge, also practical knowledge. We teach our students how to graft. We do not stop there. After we have explained that as much as we can and shown them the models and drawings, telling them when and why we do it, we take them down stairs into our laboratory and distribute material for grafting among them. We thereby give them hand and head work. Ten years ago we had 20 students, last year we had some 190 odd students. Our school occupies four whole buildings during the winter and portions of other buildings.

I was brought up on the farm, and I feel that there is no preparation for a young man that is so good and that costs so little, and takes so little time as these fourteen or twenty-eight weeks that he spends with us at the university. Many young men who have taken this course have felt that they have been repaid tenfold. If there are any young men or young women here who are interested in this subject I have some circulars in my valise, and I will be glad to distribute these and to answer questions.

Mr. Philips—They had young people from fourteen different states.

Prof. Goff—We have had students from other countries as well. It will probably not be long before we will have to have larger buildings or restrict students to our state alone.

Mr. Kellogg—How does it happen that the ladies' department is a failure.

Professor—The ladies seem to be a little timid. Up to this time only one lady student has applied at one time. They have been a little shy. We expect that more will come in the future.

Mr. Philips—They had sixty in Minnesota.

Professor—They have a special women's department there.

Question—What is the expense of this winter school?

Professor—About \$50.00 in cash, exclusive of railroad fares.

Mr. Philips—You can count on \$75.00.

Professor—My figures were given on an average of the actual expenses of a large number of students. Many young men come there who are not owners of farms, very often a hired man on a farm who is ambitious. We found out a few years ago that we could place one or two of those young men in good places, and this last winter we have located 71 young men in places. They were young men that were open for engagements.

Mr. Perriam—Would it not be a good plan for the Horticultural Society to give a membership of a year to the members of the short course?

Mr. Philips—We have done it for a number of years.

Mr. Philips—A young German farmer once came to me and said he had saved some money, and wanted to know if he ought to go to Madison to the short course. I advised him to go, and he has increased his earnings from \$15.00 to \$24.00 per month.

Mr. Babcock—Before I went to Madison to attend the meetings of the Horticultural Society, I used to do a great deal of kicking about the expense of maintaining the university. I knew nothing of the buildings or the school or anything. I took a day and looked over the grounds and buildings, and I was converted. I saw the great benefit given the young people of this state. That was the last time I kicked about paying taxes to support this school.

Prof. Goff says that the report of Secretary Philips on the experimental orchard at Wausau is of more than ordinary interest because the weather conditions were remarkably severe there.

Temperature during the month of February is as follows:

1st, 18 below; 2nd, 18 below; 3d, 5 below; 4th, 19 below; 5th, 31 below; 6th, 28 below; 7th, 36 below; 8th, 26 below; 9th, 30 below; 10th, 40 below; 11th, 38 below; 12th, 35 below; 13th, 14 below; 14th, 2 below.

The total number of degrees below zero amounts to 354 during the first half of February. At Madison the degrees below

zero during the whole winter is 100 degrees less than this. The total at Wausau for the winter is 656 degrees, a remarkably low record.

Prof. Goff here describes list of cuttings of this year's growth on trees brought to meeting by Secretary Philips. Some have made a growth of 12 inches, some 11 inches, 10, 9, 7, 6 and 3 inches. Only two of these varieties failed to start growth from the terminal bud. They are the Longfield and Newell. This number of varieties of apples starting growth from the terminal bud and making all the way from 3 to 12 inches of growth after this remarkable record of temperature, teaches us one lesson at least, and that is that our apples die from something else besides cold alone in very many cases. We find that elsewhere in the state where the temperature was not as low the mortality of trees was greater. Something besides cold causes this. Plenty of snow on the ground saves the trees.

I would like to ask Secretary Philips how many trees were lost in this orchard?

Mr. Philips—One row of Newell, 18 trees in the row. I shall re-set all those. Outside of that there are 2 plum trees; that is all at this date.

President—Next topic is paper by Mr. Merrill.

Mr. Merrill reads paper.

PAPER READ AT THE SUMMER MEETING.

By S. R. Merrill of Appleton, Wis.

A short time since I received a letter from Secretary Philips asking me to write a paper for this meeting. I was very much surprised that he should ask such a thing of me. I tried this one and that one, but all refused, even to my good wife, who had never failed me before in any emergency, but she, like the rest, utterly refused to help me out in this. I remembered reading in the Shiocton News of Secretary Philips filling the pulpit of the Congregational church very acceptably; from that I took courage.

I have never attended one of your midsummer meetings and therefore am not posted in your method of procedure. One

year ago when you met at Appleton I was unfortunately away from home, in Kansas. I was deprived of the pleasure of meeting with you and helping to entertain you and also of the benefits of the meeting which I have heard spoken of very highly from everyone who attended. I was present at the annual meeting at Madison last winter and was greatly pleased with what I saw and heard. It was extremely cold at the time. I asked one of the older members if he did not think the cold weather would be hard on fruit trees and berry bushes. The answer he gave me was, "I am glad of it. This is just what I have been praying for for years." I was surprised. His explanation was that it would do away with lots of tender stuff which they had been fooling with for years for no profit. I have thought of his answer a great many times since.

When spring opened I found that my raspberries were killed back nearly to the ground. I had taken a great deal of pride in caring for them in the fall and they did look fine. I thought surely his prayer had been answered and then the thought occurred to me, "Why should one man be glad of so many others' misfortunes?" From my point of view it looked a good deal like selfishness but I would not like to apply the term to anyone for fear of doing him an injustice. He may have had something deeper and farther ahead that I knew not of. We have a great many things to be glad of if we look at them in the right light. A great many things that we look at as real calamities at the time, are really blessings in disguise, when we are led to see the lessons that we should learn from them, which perhaps we would never learn from any other source, and last winter may be one of these blessings. I am in hopes ere this meeting closes to get some light on the subject.

As a delegate from the Grand Chute Society of Horticulture I will in my report say that we have a fine live society of about 100 members, all of whom are interested in the work of horticulture, floriculture and home improvement, all of which go hand in hand. There is a sort of rivalry, if I may state it so (and I think it commendable), in our Society, each one trying to be as nicely fixed up as his neighbor. When we once get this idea started it is wonderful what an amount of good can be accomplished in a short time and what a benefit, not only to each in-

dividual but to the community at large. Where does this impetus start from if not in our little local society that is doing so much in its meetings to create kindly feeling and good fellowship one with the other. We generally have an attendance of from 40 to 80 members and lots of visitors, all of whom seem to enjoy it hugely.

We hold our meetings quarterly, once in three months. We meet with one of the members, each one taking his turn in entertaining the society; of course each family takes a basket of good things and when all are combined we have a feast fit for a king. After the stuffing of the inner man we have readings, speaking and discussions on horticulture and look over the exhibits which are generally quite numerous. I would say right here that we could not make an exhibit of our fruit at this meeting, for it is not ripe. The 18th of May we had a frost and for three nights following, keeping our strawberries back, and for some time past we have had very wet, cool weather. The berries are growing all the time but do not ripen. I did not want to bring them here green for fear you would think they were young pumpkins. The other evening a gentleman came along from town. I was in the berry patch. He looked over the fence and asked if we were going to have much of a crop. I told him it bid fair for a big crop if nothing happened; then his eye caught sight of one. He said, "What is that great big white thing there?" I rolled the vines up so he could see. "Is that a strawberry? Oh, my! Berries will be cheaper when yours get ripe." He had been paying 10 cents a box, only just a handful.

Strawberries are, where cared for, a bountiful crop. Raspberries will be a very short crop, both red and black. Blackberries nearly all gone, also grapes; some cherries and some apples, but a light crop owing partly to the cold winter and partly to bearing so full last year. A good many dead trees through the country.

We had planned to have a good delegation here, but this is commencement week at the college. A great many of the old students return for a gala time, to be entertained by their friends, which deprives many of this meeting.

President pro tem. Babcock issues invitation to "strawberry festival" at residence of Mrs. Treleven at Omro to be held next evening. All horticulturists invited.

President Babcock—Next subject on our program, "Plant Window in Winter," Mrs. Treleven. Applause.

THE PLANT WINDOW IN WINTER.

By Mrs. J. D. Treleven.

(Paper read at Summer Meeting.)

When bleak, chill days and frosty nights come they remind us that summer is bidding us good-bye and winter is approaching with quick steps to greet us, and that we must begin to prepare for it. Anything that will lend an additional charm to the home has an inestimable value.

The plant window in any home is a sign of cheerfulness, especially to those whose have prepared it. It is the Hope window which looks toward Heaven. It gives a furnishing which can be brought to the house in no other way, and when we consider how much flowers brighten our lives and cheer our homes, it seems hardly possible, that, remembering the dear things which have given us so much pleasure during the wealth of summer's bloom, we can gather around our firesides without some of the bright and gay to modify the bleakness of the winter days. It seems to me that plants in winter are more beautiful than in summer. After looking out on the bare, frozen ground, or the snows of winter and then looking at your plant window you can but be fully repaid for all your labor.

But preparation must precede enjoyment, much planning and work must be done before you can attain the happiness of having a plant window in full bloom. First we must plan our window and then adjust our plants to it, or perhaps adjust our plants to the window we now have. All this means a good deal, for our plants ought to be potted early enough to have them look presentable before placing them in the window. After this comes the daily care of watering and watching for insects, with

patient waiting through the dreary and almost sunless months of November and December for blossoms, unless chrysanthemums and other fall-flowering plants are a part of our collection.

A winter collection should contain many varieties, so that a continuous bloom may be enjoyed. The plants should be treated as welcome guests; try to decide without undue preference which shall be most honored, which shall have the best corner in the conservatory. Perhaps the calla, for with plenty of light it will grow more symmetrical and upright in stately beauty, and under right treatment its free offering of white blossoms makes it justly the queen of winter flowers.

If the conservatory opens from the sitting room with an arched entrance around which vines may be trained, there are so many well suited for this purpose that it is a mere matter of fancy which to select.

The German ivy is most rapid in growth, and the variety *macroglossus*, with dark, rich foliage, resembling the English ivy, is beautiful, though not so quick in growing as *scandens*, the light-leaved variety. The *Cobea* is a most satisfactory vine; it grows luxuriantly and will give a profusion of rich purple bells; *Medeira* vine and *smilax* are among the easily cared for and rapid growing vines; *Maurandia* is always graceful and desirable. But the very prettiest vine on the list is *Asparagus tenuissimus*,—the delicacy of its foliage, its bright cheerful green, and perfect freedom from insect pests, leave nothing to be desired. It is invaluable, with its dainty sprays, for bouquets and decorating purposes, as it keeps its beauty a long time when cut. The geraniums are the most reliable standbys and for the inexperienced, perhaps the least disappointing, showing us something of cheer and beauty, however adverse the circumstances. If neglect causes them to drop their buds, there is yet the luxuriant foliage. Some of the variegated and tri-colored sorts need no flowers, they are beautiful enough without.

A good selection is Black Douglass, the well known Mrs. Pollock, the Happy Thought, Cloth of Gold, and Madam Lalleroi; add to this the ivy-leaved geranium, *L. legante*, with some of the sweet scented sorts, and there is a window garden which would afford a great pleasure even if there was not a blossom.

Of the other geraniums the old favorite, *Asa Gray*, is one of

the finest bloomers; Master Christine is a single geranium of a bright pink which is sure to bloom; the Dazzler, a rich scarlet with a white eye, and White Clipper, or pure white, are good varieties.

Where there is limited room, perhaps fuchsias are the next choice after geraniums, and among these flowers *Speciosa* is the very best variety for winter blooming; Pearl of England may be ranked next, and Storm King is an excellent double variety.

Each flower grower has a special fancy and may have double petunias, heliotropes and lantanas; indeed, heliotropes, the sweet flowers, are almost indispensable. But between the large plants there may always be found room for the dainty Chinese primroses and the cyclamens.

Bogonias always give satisfaction and some of the ornamental ones are seemingly more hardy than other varieties. Many of the ferns do well with room culture, if given sufficient water and kept free from dust. The sword fern is a very graceful plant and is good for decorating.

Bulbs should be added, for the window is never in its glory until freesias, hyacinths, narcissus, daffodils, jonquils, and other bulbs (and that not sparingly), are added, for each bloom is a joy and affords more delight than many more costly pleasures. There are foliage plants deserving a place in every collection; these are especially useful in a jardiniere, giving a bit of color and enduring the dry atmosphere of the ordinary room perfectly.

For window brackets, the large flowering oxalis is always desirable and a pot of *farfugiums* gives a pretty effect. I would also have a few of the tea roses, and by giving them a bath nightly, you will have roses that will be a joy to your heart. The Madame Soupert and Hermosa are good varieties for winter blooming.

With such provisions for our window it is a pleasure in winter to make frequent visits to our flowers when everything is cold and cheerless without, and if the sun shines it only serves to heighten their beauty; so, in either case, they give us joy. But while there is a great pleasure derived from the cultivation of flowers and the plant window, there is also much work and certain offices which need to be performed toward the winter gar-

den, and should be regarded as positive duties and conscientiously discharged, for unless they are, there is sickly growth of plants, and dearth of blossoms. One great cause of failure to secure bloom is injudicious watering, deluging at one time and withholding at another and paying no attention to the needs of the different varieties. The appetites and needs of plants are as varied as those of people and their temperaments differ, too; there are the sanguine, the sensitive, the phlegmatic, each requiring to be dealt with accordingly. While one plant will thrive notwithstanding the utmost neglect and subsist on almost nothing, another must have nourishing food and warm drink. It is a good plan to adapt the water to the temperature of the room, and be quite sure the drainage is good. Often a plant will droop and look sickly when, if the matter is looked into, it will be found that water stands in the bottom of the jar.

The calla, as is well known, requires plenty of quite warm water. Fuchsias are thirsty plants, especially when in bloom, and moisture is necessary to the Chinese primrose. The majority of plants require a weekly bath, and nothing so invigorates them as a shower bath of tepid water. Those which cannot be removed readily may have their leaves sponged. Once in sympathy with the needs of the various plants and understanding their whims, the care of the plant window is a sinecure and a never ending delight.

Flowers also develop conversational powers and enlarge one's vocabulary of words. With a flower in hand the holder thereof has the power of asking for or conferring knowledge. And I think no one will deny that flowers do exercise a softening influence over our natures and cause us to take more comfort and rest at home if we are surrounded by them. Somehow I imagine they have a great influence for good, especially as regards children. It is my opinion that if every child, boy as well as girl, was brought up in a home surrounded by living plants and flowers, taught some of the mystery concerning them and given an opportunity to care for and administer to their few wants, we should have a great deal less crime and more of happy homes. More and more, as we advance in the scale of refined living, do flowers become our inseparable companions. We want them

in our homes, in our churches, upon our lecture platforms. Everywhere that life is at its best there flowers should also be. How much they add to the grace and the beauty of life! No evil influence goes with flowers. Evil is not of them nor in them, and naught but pure influences emanate from their presence; they are the fairy touches to existence, the last degree in the adornment and the graces of life; and how their lovely faces shine to point the way to God.

Mr. Kellogg—How large is your winter window?

Mrs. Treleven—I winter seventy-five plants. I wintered all my roses, I did not lose any. What troubles me most is the red spider. I take the plants, place them in my sink, turn them upside down and spray them from the faucet. Give them such a bath twice a day if it is necessary.

Mr. Perriam suggests immersing the plants in a tub of water if you have no sink and faucet.

Mrs. Pingrey—I will curtail Mrs. Treleven's list, and speak in favor of the Chinese primrose.

Mr. Philips makes announcement in regard to the delay in sending out the programs. Speaks of the wash-out near La Crosse. We had no mail for four days. It looked at one time as though we could not have our summer meeting at all. It has not occurred in 30 years that we have not had mail there every day.

Mr. Philips—In reference to our next summer meeting, if everything is favorable, we want to have it at Wausau.

Gentleman from Omro—Why did not the program list include cherries and blackberries this year? I think you ought to revise your premium list. You offer a premium of \$3.00 on the 10 best foliage plants. At the time of your summer meeting these plants are at rest, while begonias were at their prime, and yet they are not on your premium list at all.

Mr. Philips—We do not feel at liberty at the summer meeting to make many changes, as we do not have as large a membership in the summer as in the winter.

Mrs. Treleven—I wish to say that this premium list on the flowers is about the same as it was when we revised it at Wau-

paca. At that time we found great difficulty in giving prizes under the old list. A motion carried there to revise the list, and it was done.

Mr. Kellogg—A year ago I was conscience stricken about taking so much premium money. Coming up on the train, I asked one of the gentlemen if he brought any berries. He said, "Let the folks up here where we are going have the premium money." What kind of a show would you have had if we two outsiders had not come in and made a good show.

Mr. Kellogg—If anyone wishes to see the difference between the pistillate and perfect flowers of the strawberry I can show it to them.

Dr. Loope—It is not a question of perfect and imperfect flowers. The pistillate varieties bring the most money when we have a good season. We look to the Warfield. With that we have had the Baderwood and the Enhance for fertilizers. We have some Brandywine, Wolverton and Saunders. We do not get them to fertilize our beds. We used the Enhance; we used to use the Jessie. There is no berry to take the place of the Warfield. We have some Crescents but they do not take the place of the Warfield. We have not the ten varieties, and therefore we made no display. We had very good berries for market. They like to get our berries when they can, and they do not question as to the stock we have. I do not believe that Mr. Kellogg grows all those berries he has here. I do not know whether he grows them anyway. (Laughter.) He can pick Enhance, Brandywine, all off from the same patch, perhaps the same plant. (Laughter.)

Mr. Smith—There is nothing better than the Warfield. We know of nothing else as good. The perfect flowering varieties will not always produce a crop alone. The pistillate will never produce a crop alone, so it is while the others will sometimes fail, the pistillate will always fail when planted alone.

Dr. Loope—Now, I like Philips pretty well, and I like George Kellogg, and I like all of them, yet lots of people think they are the biggest rascals in the state.

Mr. Kellogg—Is that a fact?

Dr. Loope—Sure. They have abused me a great deal.

Dr. Loope makes announcement relative to the banquet to be given in the evening.

Mr. Bradt—I have a strawberry patch. I set out Warfield aside of the Crescent last year, and a lot of Wilsons, too. Took out all the staminate. I have had more berries from the Crescent and Warfield without any staminate.

Dr. Loope—There is not a staminate plant within three miles of here. It goes to show the strength of our vines. Those plants were really fertilized from the year before on our place. (Applause.)

Mr. Smith—The Doctor fertilizes with red and white clover.

Mr. Kellogg—I have known instances where the Crescent has produced bloom without any fertilizing. In favorable seasons there is a little pollen around the blossom.

Prof. Goff called for.

Professor—As far as my observations go there are only a few varieties of strawberries that produce no stamen. There are often stamens enough in the Warfield to produce a small crop provided other conditions are favorable. But no good crop could be grown in that way.

Mr. Bradt moves a vote of thanks to the Omro Society for its co-operation.

Motion carries.

BUSINESS FRUIT CULTURE IN WISCONSIN.

By A. L. Hatch, Sturgeon Bay, Wis.

(Read at the Short Course Session.)

Will it pay? When any one goes into fruit culture as a business it is not likely he will do so for fun, although I presume he may feel as the Irishman did who was making maple sugar one spring: "Be jabbers! I mane to keep at it all summer if I likes the buznness." There are many who go into business and only expect to follow it if successful from the first. One season's adversity discourages them. Such persons lose the advantage of

experience, skill, and training acquired in their venture and are not the ones to make a success of anything.

But the question recurs, Can anyone make a successful business of fruit growing in Wisconsin? If we consider the immense amount of fruit grown last year in our state we must admit that Wisconsin can grow the fruit as far as that goes. Whether it will be a success or not depends largely upon the man who makes the venture. Perhaps you may think the field pretty well filled now and little room left for profits. Prof. Bailey truly says, "All business is now overdone in its common levels. The success of a business depends more upon the man than the business. The first advice is, therefore, to choose the business which one likes best." To this I would add, "Choose the business that will fit the farm you occupy and for which you are willing to become qualified."

The subject of fruit culture is so broad, I wish in the brief time I have to address you to speak more particularly of "business apple culture" and to consider first the fitness of our state to make a success of it. You and I live in Wisconsin; it is our home. We are interested in developing its resources and we desire to surround ourselves with as many of the good things of this world as we can. It is of a hundred times more importance to consider what we can do than to consider what the other fellow can do, unless he competes with our business. As an apple-growing state Wisconsin has very little reputation. And yet hundreds of car loads of apples were sent from our state last season, going largely to the so-called apple growing states where some of the world's largest commercial orchards are found. Not only were our own markets well supplied during August, September and October, but we had a large surplus that went to the markets of half a dozen states. And yet we have no business orchards in Wisconsin. We have some fair-sized miscellaneous plantings for business, but no strictly commercial plantings yet growing enough fruit to make much impression.

It is also true that our orchards as yet still lack good keeping commercial apples, but you may be sure that if the Wisconsin Horticultural Society has succeeded so well in encouraging the growth of small fruits as to cheapen luscious berries to

every mouth in our broad state, it will not rest until it has also secured the full measure of success in apples.

Perhaps the nurserymen of Wisconsin are partly responsible for the lack of reputation we have in regard to apple growing. The first plantings were of trees from eastern nurseries and when they failed from any cause, whether it was bad management or anything else, we all said, Eastern trees are tender here; you must buy our Wisconsin grown stock. And yet it is a fact that today you can find bearing trees of almost every kind ever planted—here and there a specimen or more. If this proves anything, it is that when conditions are favorable we can grow many more varieties than we have supposed and that we are responsible ourselves for many losses we have laid to other causes.

We have canvassed the matter of winter killing among ourselves and after nearly thirty years' experience I wish now to say I have never seen apple trees winter-kill unless they were in bad condition and I never saw them in bad condition unless something had been done to them that should not have been done, or something left undone that should have been done. Perhaps you may think our climate exacts extra care, and that it is more work to grow an orchard in Wisconsin than elsewhere. The real truth is that nothing is required to grow an apple orchard in our state that is not required anywhere for continued success. Any neglect to give a tree all it requires to supply its needs will result in disaster whether in Missouri, Kansas or Wisconsin. You can not ignore any vital want in a fruit tree without its telling effects upon the product or the tree itself, any more than you can neglect a farm animal's requirements and get good results. Trees require food and water and at the right time, as much as cows and calves need food and water. Indeed, they need balanced rations just as much as a dairy cow does. Anchored to one place for its life, struggling perhaps with other trees and plants that divide or rob it of its food and water like a starved calf, it will become poor and lousy,—lousy because it's poor, and poor because it's lousy! Our climate is such that our severest winters may punish us for planting the wrong sorts in wrong places and for every neglect or wrong management. It simply says you can not shirk your duty with impunity, for my

next winter may be as severe as the one friend Moyle told about, when the toots froze into the old-fashioned stage coach horn!

The latter part of August, on behalf of the Wisconsin Horticultural Society, I went to Omaha to install and superintend an exhibit of apples at the trans-Mississippi exposition there. After our fruit was in place I had a little time to look about and see what other states were exhibiting. There were fruit exhibits from Oregon, California, Idaho, Montana, Nebraska, Illinois, Iowa, Missouri and Kansas. As some of these states included within their borders some of the largest commercial orchards of the world, we expected our exhibit would be very modest, indeed.

Away down the immense hall, past the exhibits of several states, and quite out of sight of our display we found the Kansas exhibit superintended by that venerable old gentleman, Mr. Fred Wellhouse of Topeka, the apple king of the world. After becoming acquainted with him I gave him a cordial invitation to come over to our end of the hall and see our show. The next morning he came into the west entrance near our exhibit, and facing the tables with a look of wonder and surprise upon his face he said, "Mr. Hatch, I think I never saw so fine an exhibit of apples in my life. I am perfectly astounded at the extent, variety and beauty of your show." "Well, father Wellhouse," said I, "if you are sincere I certainly take that as a compliment." He replied, "I am! I didn't dream you could do that in Wisconsin." "Oh!" said I, "this only proves that no one state has got a cinch upon the 'big red apples.'"

Our one hundred varieties of smooth, perfect fruit was indeed a surprise to the trans-Mississippi folks and was conceded by every exhibitor in the building at that time to be by far the best apple display at the exposition.

One fact I also learned more emphatically than ever while at the exposition, and that is that the loss by spring frosts killing the bloom is very large in all states south of ours. Mr. Wellhouse and his sons have 1,640 acres of apple orchards in eastern Kansas,—the largest in the world under one management. From him I obtained the statistics of the yield of his older plantings, 420 acres now bearing nineteen years. During that time he reports five crop failures. This last season there was an almost entire failure of the crop south of Wisconsin and west of

the Mississippi river. Our state had the largest apple crop in its history. During the last twenty years at my old home in Richland county I had but one failure, and on the Door county peninsula no failure by spring frosts killing the apple bloom has ever been known. The apple is a northern fruit and in our state does not start to bloom so early as further south and is, therefore, much more reliable.

Another thing that I learned, and that is that in point of yield our orchards are equal to any. It may be a surprise to tell you that the best yield of the 420 acres reported by Mr. Wellhouse was 188 bushels per acre and that many Wisconsin orchards have this past season borne from two hundred to three hundred bushels per acre. Still another fact that I discovered, and that is that the methods of planting, culture and management adopted by the large orchardists are not such as will keep their orchards up to profitable bearing,—they are not meeting the vital requirements of continued fruitage. Some of their arrangements are irreparably wrong and some may be remedied by a change of method. But you know of the old adage, "It is hard to teach an old dog new tricks."

I have now said enough to show you that Wisconsin has some great possibilities in apple culture awaiting development. And this brings us to a consideration of a successful business depending upon the man himself. You of the Short Course who have attended Prof. Goff's lectures on horticulture have received special instructions that should give you splendid qualifications to enter upon the business of fruit culture, if you have land fitted for it. You have learned the bed rock facts as expressed by Professor Goff that "The intelligent culture of any plant must necessarily be developed largely from the growth habit of the plant itself." You have learned a multitude of things about what plants require and how to meet those requirements. All this lies in the field of positive knowledge,—in the realm of what to do and how to do it. There is another field of knowledge that, owing to human stupidity, is often quite as large, and sometimes larger. This is the field of negative knowledge,—of what not to do, and how you shouldn't do it. You do not always learn this by direct teaching; it is more a mat-

ter of inference and deduction. Sometimes we get it in practical life from bitter experience. Let me give you an illustration. Last spring a friend of mine secured a neighbor to prune his young orchard. This neighbor is something of an amateur fruit fancier and was supposed to know something of fruit culture. Among the trees were 200 plum trees full of fruit spars, ready to bear a fine crop. For some reason he pruned them all off! For four or five years those trees had been getting up to bearing condition and for two years they had given special attention to rearing those fruit spars.

You can imagine how discouraged those trees now look. The old gentleman who did the pruning, I think, is usually clean shaven. Perhaps he doesn't like a bristly face and thought that if a clean shaven face looked best, a clean pruned tree would look best. But it is not always safe to reason from analogy. The little boy in school did that. The teacher told him to pronounce the two last letters in the word fill double l, not l, l. He thought the same rule ought to apply to the reading lesson. The first line was "Up! up! Lucy, the sun is in the sky." He read it, "Double up, Lucy, the sun is in the sky."

The next consideration may be concerning markets. Can we expect to sell apples profitably if we grow them? Yes! if we grow the right kinds. Today apples are worth \$4 to \$5 per barrel in most places through the state. Our home markets are never supplied with home grown winter apples. There are splendid chances to make money on earlier varieties than those now grown,—good chances to grow later keepers; good chances to grow better qualities; good chances to develop home and special markets to please individuals; good chances to improve upon the handling, storing and marketing of the kinds we now have to increase their market value. And above all, unlimited chances to grow fancy fruit that will command a profit in all markets.

In our own markets, without the necessity of long transportation, with certainty of crop and yield in our favor, I see no reason why the business may not be as profitable in our state as anywhere. Of course I can not here discuss all phases of this matter. I must necessarily leave such questions as sites and soils,

elevations and slopes, air, drainage and climatology. I can not here tell you what to plant and what not to plant. Nor have I time to tell you of culture and management,—what to do and how to do it.

Now, suppose a man has a farm under cultivation, and equipped with teams, tools and implements with which to operate it. Assuming the farm to be a good place for growing apples, shall he undertake to do so? On all farms there should be some leading specialty, and every farmer should be something of a specialist in some branch of agriculture. Then again, all undertaken on a farm should harmonize so that one thing may not interfere with another. Having the land, tools, etc., the farmer will grow something anyhow,—perhaps corns, potatoes, peas, oats or beans. He can plant his fields into apple trees if he does it right and then go right on with his farming just the same as before and still have the orchard growing; that is, he can grow the trees and still have the use of the land for other crops. His only investment then to secure the orchard is that of the planting and a little care each year to keep the trees thriving. In this way, since a man gets returns every year from his land, he doesn't wait for his orchard at all. If he is a good cultivator and rotates his crops intelligently, he will improve his land and in a few years he has a bearing orchard without realizing its cost. He has grown into it, or rather it has grown to him. This is the business way to do it. Some may say that looks all right, but I guess I'll let the other fellow try it.

But what are you going to do any how? What is the best you can hope or expect now from your farms? In the spring you put in a crop, in the fall you take it off, and there is your land just as it was before,—no gain as far as the land is concerned. You can do all that and still grow \$5 to \$10 value into each acre every year, if you plant the apple trees.

A country is worth what it can produce. One that can produce nothing is worth nothing. A man is worth what he can accomplish. If he can do nothing he is worth nothing. A country undeveloped may be no better than a wilderness. Our state has some peculiar advantages in fruit culture that I have attempted to indicate to you. I believe that to you of the Short

Course our educational institutions have imparted some special instructions, some general information that should be of vast help to you in the great business of getting a living in which such a vast majority of us are so earnestly engaged.

Perhaps what I have said may seem something like Pat's gift to the priest, something he was not quite willing to receive. The case was this: Pat went into the kitchen and seeing a nice ham there and no one near he slyly slipped it under his coat and went into the priest's room and said, "Here, Father Rooney, I stole a ham and bro't it to ye. Will ye take it?" "Will I take it? By no means. Take it back to the man you stole it from." "Indade I did, sir, but he said he'd take it by no manes." "Oh! well, Pat, I guess then it is yours." "An' will I be absolved intirely if I kape it?" "Oh, yes, of course." "God bless your riverence."

With youth and opportunity before you, with the energy, courage and intelligence so characteristic of our western citizenship, within our borders lies to you a splendid field for possible achievement. If you live up to your opportunities and realize these advantages you will yet agree with me in asserting that Wisconsin is, what I believe it to be today, a very poor state to move away from.

WISCONSIN FRUIT AT OMAHA.

Wm. Toole, Acting Superintendent pro tem.

Since all members of our State Horticultural Society receive our monthly magazine and have read the previous reports of our fruit show, it seems as if now what we most care for is whatever assurance can be given that the state of Wisconsin will be benefited in return for the expense which our State Society incurred in making this exhibit.

That the state of Wisconsin could well afford many times over to pay the expenses of our show in return for advertising the advantages which our state can offer to home seekers, is very plain to any one who spent a little time by the Wisconsin fruit, and

heard the praise bestowed on our fruit by visitors from other states, and the gratification expressed by Wisconsin residents or those who had at some time lived in the state. It would seem as if everyone who had ever lived in the state or had relatives in it took pride in our beautiful display of apples. Once in a while some old pioneer, who had left the state in an early day, would be surprised at the progress we have made in fruit growing. We were surprised, too, to meet so many persons who have at some time lived in Wisconsin and all seeming to have such an affection for the old Badger state, as if they felt like temporary sojourners away from their home state, and taking as much pride in the honors Wisconsin was earning as if they had a part in making the display.

Our fruit was so fair and free from blemish, in such an abundance and variety, it was no wonder that so much admiration should be shown. The commercial orchardist might say that we were showing too many kinds, but we were there to impress all classes of visitors, and it certainly was taking to the mind of the average observer to think we had so many kinds to choose from instead of being confined to crabs and a few varieties of apples.

It was a happy thought of Superintendent Hatch to provide a map of Wisconsin and mark on it the places where the fruit had come from. Proud were many an old couple to show that near such a place was their former home, and many a younger one to say that they were married or born at certain places. Sometimes there was disappointment because the blue mark was not placed where the visitor assured us were plenty of apples this year, and we had to explain that no one had collected in that locality, and apples had come in such abundance we could not at that late day look up fruit from new localities.

We were fortunately located with Oregon's abundance of floor space on one side and a beautiful display of palms and ferns on the other. The brightness of our color was well shown off. Idaho and Colorado showed south of us such grand peaches and pears, yet apples were what attracted the crowd.

Wm. Fox's grapes made a grand collection, yet people seemed

apple hungry and the fine display of grapes sent by Mr. Fox did not receive all the notice they deserved.

Our space was not extensive,—about the same as Idaho had,—yet our show was much larger than it appears in the picture. The picture is a good one but one can't realize the distance from front to back and we wish that Secretary Philips had been standing at the farther corner, contrasting his broad shoulders with the big plates of apples on the shelves close by. Looking at the picture in the Wisconsin Horticulturist you can notice the sign "Wisconsin" over the middle of the exhibit, and again another of just the same size over the further end. By comparison of appearance of these two signs one can judge better of the length from front to back. Some of our fruit growers at home know that their orchards were advertised at Omaha because of inquiry letters received by them, and in the future, if there is a shortage of apples elsewhere, buyers will be sure to look to Wisconsin for apples.

We have shown the people of the United States some convincing reasons why Wisconsin is a good state to live in, and we can heartily agree with Mr. Holmes, who had charge of the palm exhibit near by and said, "If Wisconsin had not made this show of fruit, she would have missed the best chance to advertise herself she ever had."

RESOLUTIONS AT SUMMER MEETING.

Your committee on Resolutions have considered the matters left to their care and beg leave respectfully to report:

Whereas, The members of the State Horticultural Society and members from abroad have been most royally entertained by the Rushford Horticultural Society,

Resolved, That we hereby tender to that body our most heartfelt thanks and appreciation, and shall ever hold in remembrance the happy days in beautiful and floral Eureka. In other words we each and every one may say "I have found it."

Resolved, That our thanks are hereby tendered to our fellow

member, Mr. H. Tarrant, for the interesting report on Orchards in Southern Wisconsin.

Resolved, That we also tender our thanks to the Omro Horticultural Society for their kindly aid and attendance, adding interest to the meeting.

Resolved, That we also tender our thanks to the veteran horticulturist, Mr. J. S. Stickney, for his kindly and interesting letter to the fraternity in session in Eureka.

THE ORIGIN OF OUR NORTHERN APPLES.

(The last paper written by the late J. C. Plumb of Milton, Wisconsin, a veteran in Wisconsin horticulture.)

While recently looking over several hundred original drawings and descriptions of new apples which have claimed my attention during the past thirty years, I was forcibly impressed with the fact that of the thousands of varieties I have examined, but a very few of them have been found to be adapted to general culture over many portions of the north and west. We have found in many of our Wisconsin seedlings excellence in quality of fruit, and the fact that such have survived to grow from seed to fruiting may seem a conclusion that they are worthy of propagation and dissemination. But the result of a trial in nursery has driven us to the conclusion that a new seedling apple may, in its native habitat, survive many years of fruiting, and may not stand the test of nursery practice and changed conditions. Our most valuable fruits have come to us from their original wildness through three lines of progress, to-wit: heredity, environment and selection, but the first and most important of these is heredity, and to this source must we look for desired qualities. Here is where we of the northwest failed for the first twenty years in our search for valuable varieties of native apples, our standard being the old favorites, Fall Pippin, Spitzenberg, Spy, R. I. Greening, Sweet Bough, etc. We found that all new apples of similar quality to be also delicate and no more adapted to our trying climate than those old standard varieties.

But since we later on made hardiness the chief test and made more account of size, beauty and productiveness, we have found our McMahan, Wolf River, Wealthy, N. W. Greening, Windsor, Malinda, etc. We also appreciate Prof. Goff's plea for quality, but since quantity before quality is the rule of commercial success, and since every barrel of prime N. W. Greening or Pewaukee stands today for \$4.50 clean cash, and since cheap sugar will conserve the most austere Russian or Siberian for winter use, we must rejoice in the new northwestern apples of proven adaptation, though they be low in the scale of quality.

My conclusions on this line are from the facts as we find them in Wisconsin and the northwest, hoping that in the order of progress, we may raise the standard of our apples in quality by ~~the~~ ^{the} arts of horticulture.

Following the foregoing I will give some of the facts concerning the origin of our new apples of the best twenty varieties of increased merit for Wisconsin. I find that eight originated in Wisconsin, to-wit: McMahan, Plum Cider, Wolf River, N. W. Newell, Windsor, Pewaukee and Avista. Five originated in Illinois, to-wit: Utter, Haas, Walbridge, Nelson Sweet ice's Sweet. Two in Minnesota, to-wit: Wealthy and Ma-one in Rhode Island, to-wit: the Tallman Sweet; one in Wisconsin, to-wit: Patten's Greening; one, the Roman stem, in New York; one, the Snow, in Canada; one, the Flushing-Spitzenberg, in Long Island,—twenty in all.

Of the same number of favorite Russians we know only that they originated from a long line of ancestors and they show the marks of heredity to a large degree. The Utter, Walbridge, Fall Wine and Belle Pippin originated with Joseph Curtis of Edgar county, Illinois, about the year 1818. The Utter has been grown in Iowa as English Jeniton. The Walbridge was named by the Indiana Horticultural Society as the Edgar County Red Streak. It was introduced into Wisconsin in 1848 by a Mr. Reynolds who sold the grafts and yearlings to P. Barker near Janesville and planted a nursery in the city of Watertown. From these places it was disseminated through southern Wisconsin, at an early day, and was named Walbridge by Mr. A. G. Tuttle, for the man who first grew it in Sauk county. The

Windsor was grown from seed by J. P. W. Hill of Windsor, Dane county, Wis., about 1858, from seed of the Vande Vere. In 1870 I cut cions from the original tree and from several others, but I found objections to all the others after growing them a few years, and found the Windsor the only desirable one in the lot to propagate. The N. W. Greening was planted near Iola in Waupaca county in 1858, by a Mr. Hatch, and first disseminated by E. W. Daniels, by whom it was shown at our winter meeting about the year 1870. The Wolf River and other Waupaca county seedlings were first shown by W. A. Springer of Freemont in that county, at the winter meeting of 1879. Those seedlings were mostly grown in the orchard of Wm. Wrightman, being on a rocky white oak ridge, clay soil, near the village of Weyauwega, where the Ben Davis fruited in fine shape. Those apples were beautiful and of fine quality, but never have succeeded away from where they first grew to any extent on account of lack of hardiness. The Wolf River was a stray tree found growing on the blue clay bank of Wolf River, just over the line in Winnebago county. The Plumb Cider grew from seeds planted by us in the spring of 1845 in Jefferson county, Wis. The Wealthy was grown from seeds planted by Peter M. Gideon about 1858. I first saw it in 1868. It grew from seeds of the Siberian family. The Transcendent was first brought to Wisconsin in the fall of 1853 by John Wilcox of Omro, Wis., from Montreal, Canada. The Hislop originated in Kenosha county, Wis., and was named after Thos. Hislop, a seedsman of Milwaukee in the forties and was first propagated by the nurseries near that city. Lake Winter and Red Lake were grown from seed of the Fall Stripe, planted at Lake Mills in the '50's. Sweet Russett and Orion crabs originated in Vermont. Gibb was grown and named by Peter Peffer of Pewaukee, Wis. The Martha crab was first grown by Peter M. Gideon, in Minnesota.

All these and many others we might name were the result of accident, so far as man's agency was concerned,—only accidental seedlings,—their selection only being man's work. Is it not high time that the science and art of man were employed in the polcnization and the development of new apples?

The foregoing is the concluding sentence of Mr. Plumb's last interesting and valuable paper, which he carried home to finish before he sent to it me for publication. But, alas, an unforeseen accident caused his death and whoever in the future continues the history of our seedlings may commence where our veteran friend closed his chapter. Many of the names and sentences were by him abbreviated, as he intended to revise and re-write it. I have copied and rewritten it the best I could and have returned the original to his family by their request, that they may hold sacred this his last production for the cause of horticulture, in his own familiar handwriting.

A. J. Philips,
Secretary.

In Memoriam.

J. C. PLUMB.

J. C. Plumb of Milton, an honored life member of the State Horticultural Society, died at his home on Sunday, March 19, 1899, at the age of seventy. He was a charter member of our State Society and acted as secretary at its organization. His father was a horticulturist and trained his sons in that business. Though not as much of a public writer on horticultural topics as some, he was an active, earnest worker and spent much time in writing instructive letters to his friends on useful subjects. I well remember his reply to my invitation sent to him last December to attend the annual meeting at Madison and to read a paper, choosing his own subject. He said: "I have been thinking for several years of writing for publication a history of our best seedling apples and now feel with the many cares of my every day life and the weight of three score and ten years resting heavily on me that I should postpone it no longer but write it up for our coming meeting." Its publication as his last contribution to Wisconsin horticulture will be read with interest by his many friends.

He judged the fruit at the state fair in the fall of 1897; also at our last winter meeting, and in my opinion no man ever worked more earnestly or tried harder to place the awards where they rightly belonged than he did. In the science of nomenclature or the naming of apples he was as well posted as any man in our state.

He has for some years past been preparing a horticultural his-

tory of Wisconsin, and his unexpected death will most likely delay its publication for a while at least.

As a strict temperance man and an earnest Christian he will be remembered by all who knew him. He was a worker in both church and Sunday school, and there, perhaps, more than any other place will he be missed. He has probably traveled more miles, spent more time and did more work to become familiar with the geology of Wisconsin as it relates to apple growing than any member of our society. About five weeks ago I sent him some apples and gave him a description of some forty-year-old trees and some fine young trees that I found in the vicinity of Shiocton. He wrote me at once describing the geological formation of the town where those trees are growing, also telling me how far west the same conditions were and in what other localities the same conditions were found, also that those places were the best apple lands in the state.

He was the first to call the attention of our society to the Windsor or Windsor Chief—a hardy winter apple of good quality and the first to begin its propagation. It has for several years past been gaining friends quite rapidly. He as well as others were awaiting the effects of the cold of the past winter on this as well as many other of our new seedlings, but, alas, his work is done and his works will be a monument to his memory.

A. J. Philips.

MR. PLUMB AS A CITIZEN.

Doubtless most of the members of our Horticultural Society knew Mr. Plumb chiefly as a nurseryman, and as a frequent attendant at our meetings. In these offices his genial and refined manners, his very considerable knowledge of horticulture, and especially his expertness in naming varieties, always commanded our respect. Some of us knew also of his active opposition to the saloon.

While in attendance at his funeral last winter, I had opportunity to learn something of his relations to the community at

Milton, in which he has so long resided, and am happy to say that this information gave him a still higher place in my esteem than he had before. There I learned that throughout his long residence at Milton he had been one of the most substantial pillars of the local church and Sunday school, an active supporter of the Milton College, and an earnest advocate of all local reform measures. In short, he has been a christian citizen in the broader sense of the word.

I know there is a difference of opinion among practical men as to the importance of attachment to the orthodox church, and that some regard a devotional life as an evidence of mental weakness; but there can be no question as to the moral superiority of the man who devotes himself persistently and consistently to self-imposed efforts, that the standard of a higher and nobler life may be ever held up to inspire and enlighten his associates, and who is always found on the side of true progress in all matters of education and other questions of public importance.

Highly as I shall esteem Mr. Plumb for the place he has filled in the horticultural progress of our state, I shall esteem him still higher for what I have learned of him as a citizen of his own community.

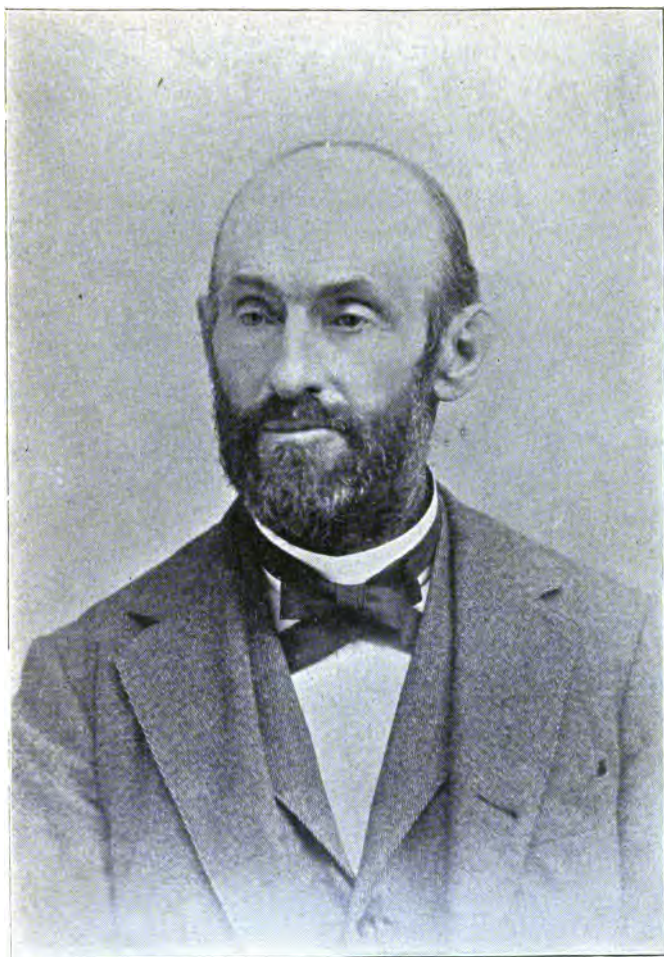
University of Wisconsin.

E. S. GOFF.

M. A. THAYER.

MASON A. THAYER.—Died at his home in this city on Thursday, July 20th, 1899, of typhoid fever, Mason A. Thayer, aged 59 years.

In the death of Mr. Thayer, Phillips and the county of Price have lost a progressive, energetic and prominent citizen whose place will never be quite filled. He had unlimited faith in the future of this county and his time, money and energy were spent freely and without price to aid in its building up. Whatever he attempted to do it was characteristic of the man to do it thoroughly and systematically, sparing neither himself, time or



J. C. PLUMB.

money in carrying it through. For weeks previous to his illness he had been taxing all his energies, his brain and system, in carrying on his business, so that when in an exhausted state, physically and mentally, he took to his bed, he was indeed in poor condition to stand the ravages of the fever upon his system but even then it was with difficulty that his family could at first induce him to stay there, and not until the fever had a firm hold upon him did he finally yield, and took to his bed, the first time in the many years of his life. There was little hope for him from the first and yet he fought a good fight. In death, as in life, his features bore the same placid, serene and pleasant appearance which were characteristic to the man.

The funeral services, which were held Friday morning from the house, were largely attended by his friends and the Masonic order of this city, of which he was a member. Rev. Samuel Howard Murphy officiated.

His remains were taken to Sparta for interment, and besides the family they were escorted by a delegation from Phillips Lodge No. 225, F. & A. M., consisting of Messrs. Rev. Samuel Howell Murphy, M. Barry, Thomas J. Meredith, G. M. Chamberlain, Dr. H. Soulen, A. P. Messer and E. D. Sperry and also Messrs. Farr and Graham.

The remains were met at the train by a delegation of the Sparta Lodge, F. & A. M. and friends, and were escorted to the Masonic Temple, where they were joined by the members of the lodge. The funeral cortege then proceeded to the cemetery where the Masonic funeral services were conducted by Acting Master M. Barry, assisted by Chaplain Samuel Howell Murphy. A male quartette of Sparta sang selections. The services were very impressive.

He leaves behind him to mourn his loss his wife, Minnie A. Thayer, a son, Chas. Thayer, and his wife, and a daughter, Mrs. Chas. E. Tobey, and her husband, and two grandchildren, sons of Mr. and Mrs. Chas. Thayer, and a large number of friends at home and at large whose sympathies are with the family.

BIOGRAPHICAL.

Mason A. Thayer was born at Conneaut, Ohio, November 17, 1839, and would have been sixty years old had he lived until the 17th of next November. He came to Wisconsin in March, 1856, locating at Sparta, where he resided until the spring of 1894, when he came to Phillips.

He was elected register of deeds of Monroe county in 1860 and was twice re-elected, serving three full terms in that office. In 1868 he established the Sparta Savings Bank, which he conducted until the financial panic of 1893 when it failed with so many other like institutions.

He was most prominently identified with the educational, agricultural and horticultural interests of the state. He served six years as Normal regent under appointment of Gov. W. D. Hoard; was president of the State Horticultural Society two years, and when the Farmers' Institutes were first held in this state he was appointed as one of the conductors and it was largely through his able efforts that these institutes were made valuable, popular and placed on a permanent basis. Indeed, his work in horticulture gave him a national reputation, his bulletins issued monthly were published by all the leading agricultural papers published in the United States and Canada and were accepted as authority on the proper care of plants of all kinds.

In 1881 he was elected a member of assembly from Monroe county, serving one term. In politics he was a republican and had three times been elected by his party as a delegate to the national convention from Wisconsin. He was always active in politics and last year was a delegate to the republican state convention. Price county was the first county in the state to elect delegates and Mr. Thayer was the first delegate chosen by the county. They cast a solid vote for Gov. Scofield's renomination.

He was married December 31st, 1861, to Miss Minnie A. Munn, at Sparta, who with two children, Mr. Charles A. Thayer and Mrs. May Thayer Tobey, survive him to mourn the loss of a most thoughtful and loving husband and father.

Since he located with his family in Phillips in the spring of

1894 he had the management of the Fayette Shaw tannery interests of this place. He identified himself with the progressive interest of the city and county from the first and has always been recognized as a leading citizen. He established the Thayer fruit farm at this place and has demonstrated the fact that this country is adapted to farming and fruit growing. This has been a great factor in starting the development of farming interests and has brought many settlers into the country. He took great interest in the development of agriculture and by act and counsel advocated cultivation of good seed and raising of blooded stock by the farmers. At the annual meeting of the Price County Agricultural Society last year he was elected president of the association. Had he been spared to the work he would have done much in the next few years to benefit this section of our state, and Price county in particular. He was also a member of the county board of supervisors, having been elected several successive times as supervisor from the first ward.

His career was one of activity and usefulness and his demise at this time is a sad blow to this city and county.

The foregoing obituary notice was taken from the Phillips' Bee, a paper published in the town where Mr. Thayer died. The writer visited him there and saw the wonderful work he was starting in that new country, and I hoped sincerely that he might live to see the outcome of it, but it was otherwise ordered. I am of the opinion, and have heard the same from many reliable men, that no man did more in the time that he was engaged in it to develop and build up the small fruit interests in Sparta and the northwest than M. A. Thayer. He was pleasant, hospitable, kind and generous, always ready to give information to all. Peace to his ashes.

A. J. Phillips,
Secretary.

REPORT ON NURSERY INSPECTION IN WISCONSIN, 1899.

To Professor W. A. Henry, Director,
Agricultural Experiment Station,
Madison, Wisconsin.

Sir:—Pursuant to instructions received from Prof. Goff, the following nurseries in the state of Wisconsin have been personally inspected by me to ascertain whether or not they were infested by San Jose scale (*Aspidiotus perniciosus*), or other dangerously-injurious insect, or plant disease.

1. At Janesville, Nursery of Mr. George J. Kellogg.
2. At Fort Atkinson, Nurseries of Mr. F. C. Edwards, Messrs. J. M. Edwards & Son, and Messrs. Coe & Converse.
3. At Sparta, those of Messrs. Z. K. Jewett & Co., Thayer Fruit Farms, and Messrs. Geo. Hanchett & Sons.
4. At Ripon, Nurseries of Mr. L. G. Kellogg (Prairie City Nursery), and Messrs. Kellogg & Runals. (Green Lake Orchard & Nursery Co.)
5. At Sturgeon Bay, Messrs. Hatch & Bingham, and Evergreen Nursery Co.
6. At Wauwatosa, Hawk's Nursery Co. (Mr. T. J. Ferguson, Manager.)

In no case was San Jose scale nor any of its near relatives, nor any other dangerously-injurious insect or plant disease found to be present in these nurseries, and it may be said with safety that they are fully entitled to a certificate showing their stock for trade of the coming year, to be apparently in good, healthy condition so far as those ailments are concerned which come within the scope of the inspector's work.

Before entering into details of the work of inspection it may be well to consider a few general facts regarding the nurseries inspected.

The past winter was one of the most severe ever experienced in Wisconsin, and dealt a heavy blow to those who had planted young apple trees, either in the nursery or in the orchard. In

some sections the cold was partially counter-balanced by a covering of snow. This was especially true in the more northern section of the region inspected.

At Janesville and Fort Atkinson the fall of snow had not been sufficient to protect the roots and severe loss followed from "winter-killing,"—the roots being frozen. Where this trouble prevails the whole tree will die early in the summer, though it may leaf out in the spring. The nurserymen at these points lost practically all of their apple stock and are now planting anew.

At the other places, the fall of snow had been sufficient to protect the roots and comparatively few dead trees were to be seen in the nurseries. Here, however, a new difficulty arises, as it seems that the cold in these sections must have been more intense. Although the roots escaped, the twigs are sometimes found to be dead,—the trouble commonly known as "freezing-back." It will thus be seen that although the sections with snow endured the winter much better than those without, they did not entirely escape its damaging effects.

The present season has been a good one for growing nursery stock. Rain was more abundant than usual during the spring and early summer, giving the plants a good growth. This is especially fortunate for the nurserymen who are now planting out a new stock of apples, as they have lost very few trees by drought. This comparative abundance of rain (which was especially noticeable in the spring) also had its disadvantages in that it started a large crop of weeds. In case of stock planted on low ground it had been found difficult to cultivate enough to keep the weeds within proper bounds. It is gratifying to note, however, that by most of the nurserymen, the stock had evidently been amply cultivated.

Tree fruits are hardly a commercial export of Wisconsin at present. Plums, as well as apples, appear to be rather difficult to preserve through the rigorous winters, while not a peach tree was noticed during the inspection, and pears are almost equally scarce. As a result of this, the stock grown by the nurserymen of Wisconsin consists mostly of strawberries, raspberries, currants and gooseberries, shade and ornamental trees, fruit trees,

and blackberries. The order of importance being nearly as here named.

There are certain insects and plant diseases which are ordinarily of minor importance, which are to be found wherever their host-plants grow. No mention is made of these in the more detailed discussion of the inspection work which follows, as it is obviously needless to mention matters which are entirely familiar to all. The aim has been to call attention to those insects which often prove injurious, or to those whose appearance in numbers is in any way unusual, and in each case these phases of the question will be discussed. Brief remarks are usually given, showing the nature of the work which the nursery is doing.

DETAILS OF NURSERY INSPECTION.

(The following is written from notes as taken in the field, and the nurseries are given in the order in which they were inspected.)

Mr. Geo. J. Kellogg, Janesville, inspected Aug. 29, 1899.

General nursery stock, giving particular attention to small fruits. Apples were nearly all winter-killed and only a few of those which survived in good condition will be sold. Others will soon be taken up and burned. Budded plums were badly winter-killed, but those on their own roots are doing fairly well.

Mr. F. C. Edwards, Fort Atkinson, inspected Aug. 30, 1899.

General nursery stock, especially small fruits. Lost all apples and was obliged to set new last spring, hence will have no home-grown to sell for at least two more years yet.

J. M. Edwards & Son, Fort Atkinson, inspected Aug. 31, 1899.

General nursery stock. Apples were nearly all winter-killed. Plowed up about 17,000 trees last spring. A young orchard which he had planted for fruit was also killed. Set out 10,000 apple last spring, and these are doing well.

Coe & Converse, Fort Atkinson, inspected Aug. 31 and Sept. 1, 1899.

General stock and gives considerable attention to apples as

well. Lost about 25,000 apple trees by winter-killing last winter. This is the heaviest loss reported among the nurserymen.

Jewett & Co., Sparta, inspected Sept. 2, 1899.

General nursery stock, giving special attention to apples. Snow protected trees well, but some show the results of freezing-back.

Thayer Fruit Farms, Mr. John L. Herbst, Manager, Sparta, inspected Sept. 4, 1899.

Grows only small fruits. Does not raise or handle trees at all. Four and one-half acres of gooseberries died early in the spring and Mr. Herbst attributes it to the severity of the winter, though there is no definite proof that this was the cause.

George Hanchett & Son, Sparta, inspected Sept. 4, 1899.

Raises only small fruits, and does not grow trees at all. Has a good many acres in strawberries but will only take plants from a small strip of the field.

L. G. Kellogg, Ripon (Prairie City Nursery), inspected Sept. 6, 1899.

Small fruits only at Ripon, and no trees grown at this place. All fruit trees are grown at the Green Lake Orchard & Nursery Co. (See next ahead.)

Green Lake Orchard & Nursery Co., Kellogg & Runals, Ripon,* inspected September 6, 1899.

Only apple trees are grown at present at this place. Plenty of snow. No winter-killing, but some twigs were frozen-back.

Hatch & Bingham, Sturgeon Bay, inspected Sept. 8, 1899.

Berries and fruits. Plum trees planted in his orchard seemed to suffer from the cold. Snow protected apples. Some twigs frozen back.

Evergreen Nursery Company, Sturgeon Bay, inspected Sept. 9, 1899.

Devotes attention entirely to evergreens and ornamental stock. Has stock in small beds and at various places, so that it is not possible to form any definite idea as to the amount in

*This is the same Mr. Kellogg as the one of the preceding nursery, but the one at Ripon is his private property, while the Green Lake nursery is owned by him and his partner, Mr. Runals, and hence the two nurseries are essentially separate.

nursery stock. "Damping-off" is the worst trouble with which they have to contend.

T. J. Ferguson (Hawk's Nursery Company), Wauwatosa, inspected Sept. 12, 1899.

Only started in the nursery business last spring and most of his stock was planted out at that time. At present his stock consists only of shade and ornamental trees. Has given no attention to fruit trees, as yet.

[In addition to the above, the nurseries of W. B. Davis of Janesville, F. K. Phoenix & Son of Delavan, A. Clark Tuttle of Baraboo and Henry Lake Sons Co., of Black River Falls, were inspected by Prof. Goff later in the season. The first of these is devoted wholly to small fruits; the second is devoted largely to shade and ornamental trees and shrubbery.

Fruit trees were largely destroyed by the winter at Delavan. The third is a small nursery, and includes mostly apple trees. This nursery, for some reason not easy to explain, suffered comparatively little from the past disastrous winter. The fourth grows apple trees rather extensively, and also small fruits and some ornamental stock. Apple trees were killed back some in the last year's growth, but the stock, for the most part, passed the winter in good condition.]

METHOD OF INSPECTION.

In nursery inspection, those ailments which cause the greatest alarm, and on account of which the inspection is principally conducted, must receive first attention. Hence, as most of the state laws aim especially at the San Jose scale (*Aspidiotus perniciosus*, Comst'k) the great object in nursery inspection is to determine if this pest is present in the nurseries, and also to make note upon any other dangerously-injurious insect or plant disease. It is not intended to give all other pests a slighting notice at all, for they must also be watched, but the San Jose scale calls for the most close attention among the insects,—just as peach "yellows" commands attention of peach growers where this disease is prevalent. Wisconsin has yet cause to congratulate herself upon her apparent freedom from the San Jose scale.

It is not known to occur within her borders at the present writing.

For these reasons the nurseries were inspected with the San Jose scale as the principal object of the search, and it may be interesting to some to know the method which is commonly used.

It is obvious that it is not practicable to examine each individual plant to ascertain its condition and it is only possible to examine certain plants in each section of the block. Thus, if a certain nursery row of apple trees is to be examined, every tree might at least be glanced at to ascertain that it is not in seriously unhealthy condition, but about one tree in every twenty or thirty should receive a somewhat closer inspection, so that if the scale is present in any section of the nursery, it will probably be found. In any case, every tree which shows signs of being unhealthy should be closely examined, and when possible, the cause of the weakness, whether it be scale or not, should be determined.

As the San Jose scale is only known to occur upon very few of the ornamental plants and upon none of the small fruits, except currants and gooseberries, inspection is rendered comparatively easy when only small fruits, ornamentals, etc., are grown. Evergreens also have never been known to be attacked by this species of scale.

Strawberries are exceedingly easy to inspect, for, standing at one place, a person may see every plant within a radius of 25 or 30 feet. With fruit trees this would be impossible. Fifteen acres of strawberries could be as thoroughly inspected in an hour as a single acre of apple trees could be in the same time. For these reasons it would hardly seem that the same stress should be laid upon the inspection of an acre of berries as upon an acre of fruit trees. Small fruits, moreover, are usually less injured by other insects than are fruit trees.

OBSERVATIONS ON BLIGHTS, ETC.

As before stated, certain blights are almost universally present, and wherever raspberries and blackberries were grown, these were most prevalent. The raspberry anthracnose was found in every lot examined. Its presence is indicated by discolored

spots on the stems, which are slightly indented in the bark. These spots are usually most noticeable near the ground, and the black varieties,—the Gregg especially,—seem to be most subject to its attacks. No especially serious outbreak of this disease was noticed.

Septoria.—In many cases the leaves were observed to be dropping prematurely from raspberry and blackberry vines and Mr. Hatch (who is well informed in these matters) says that it is due to a species of *Septoria*. The presence of this disease is evidenced by small, yellowish speckles, with a dark brown center, on the leaves. As the disease advances the whole leaf turns yellowish and finally drops off. No alarming damage was noticed from this.

Leaf Mould.—While at Sparta Mr. Fisher of that place called attention to raspberry vines in his fields, which were affected by a disease which is here designated as Leaf Mould. The terminal shoots had evidently been killed, but new shoots had pushed out afterwards. The leaves, six or eight inches from the end of the shoot, were dead and of pitchy blackness. The terminal shoots, which had pushed out after the attack, were infected by a fungus which was plainly evident on the under side of the leaves. The fungus was evidently then in its fruiting stage, and Mr. Fisher was advised to send specimens to the proper authorities for identification. Later on the same trouble was noted in vines belonging to Messrs. Hanchett & Sons, which they were raising for the fruit and from which no plants will be sold. The suggestion is offered that unless the disease lessens materially, the parties so troubled be urged to spray the vines or to destroy them, as the disease will evidently become much more serious if it is not combated quickly.

"Damping-off."—This is an ailment which has caused the growers of young evergreens much trouble. Its ravages are confined, it seems, to the yearlings, and the loss is often quite serious. It was especially noticed in the beds of the Evergreen Nursery Co., at Sturgeon Bay, but it kills the plant while it is yet young and is not an ailment which is carried with the plant and which would spread as other dangerous diseases do. Hence the fact that plants are lost by "damping-off" is not an argument

to the effect that the stock is poor. On the contrary, those plants which were weaker in the beginning are the ones which would naturally succumb to the disease. Hence its presence acts more as an insurance to the purchaser than otherwise, even though it is an unwelcome guest to the grower of the yearlings. It never troubles older trees.

OBSERVATIONS ON INSECTS.

Aphis mali.—This is the common green plant-louse which is so often injurious on the leaves and younger twigs of apples early in the season. It is apt to become less abundant later on but the fact that it has been present is usually betrayed by the presence of a blackish substance which is really a fungus which grows upon a sweetish excretion of the plant-louse. Few insects are so dependent upon special seasons for rapid re-production as are plant-lice. In some seasons they are extremely abundant and injurious, while another year they may be scarcely noticeable. Signs of the presence of this insect in considerable abundance were observed at Mr. Kellogg's nursery at Janesville, Mr. Jewett's nursery at Sparta, and Mr. Hatch's nursery at Sturgeon Bay.

Datana ministra.—This insect is also known as the yellow-necked apple-tree worm. These caterpillars feed in colonies, and infest oak and hickory trees as well as apple. They assume a very threatening appearance when disturbed, posing with the head and tail thrown upward from the branch to which they cling by means of the large, fleshy prolegs on the abdomen. When full grown the larva descends into the ground and passes through its transformation to the adult moth. The adult is of a buff or brown color, with a dark velvety-colored head and shoulders. The wings expand nearly two inches, and the forewings are banded with a still darker brown. This insect was observed at Sparta in the nursery of Mr. Jewett, and at Sturgeon Bay at the nursery of Hatch & Bingham.

Melanoplus femur-rubrum.—This is the very common grasshopper about an inch long, which is so very numerous all over the state. Its principal food is grass, grains, clover, etc., but it was observed to feed with considerable voracity upon apple

leaves in the Green Lake Orchard Nursery near Ripon. In justice to the grasshopper be it said that it is rarely a pest upon fruit trees. This little creature is so very familiar to every one that no description is needed.

Aphis forbesi.—This is one of the worst pests of the strawberry, though it is unfamiliar to most of the growers of that fruit. It is a very small greenish-black plant-louse that attacks the roots of the strawberry, and where it is once thoroughly established, usually does considerable damage. The presence of the insect is indicated by the vines wilting as if for want of water, and in such cases wilted (not dead) plants should be pulled and the roots examined. If this pest is found to be present, the most stringent measures are advisable to prevent its spread. In the states of Maryland, New Jersey and Delaware, where strawberry growing has long been one of the leading industries, it is not an exaggeration to say that hundreds of acres of vines have been rendered valueless on account of its attacks. This insect was found in an old bed of strawberries on the premises of Messrs. J. M. Edwards & Son at Fort Atkinson. No plants will be sold from this bed, and assurance has been given that it will be destroyed. It will not be advisable to plant strawberries in the same ground again for two seasons to come. Special stress has been laid upon the presence of this insect for the reason that strawberry growing is a rising industry in Wisconsin and has not yet reached its best and fullest development, hence it is desirable to catch the insect invaders in time.

Lachnosterna.—Every farmer knows the White Grub and especially is it known to the grower of strawberries, for it causes the loss of many plants. To name the nurseries in which this insect was found would be to name all of those in which strawberries are grown. This insect does not always remain a grub, however, but finally changes to one of the brown beetles, about three-fourths of an inch long, which annoy us by buzzing round our lamps during the warm evenings of June.

On the premises of Mr. Herbst, managing the Thayer fruit farms at Sparta, small black saw-flies were observed swarming around strawberry vines by thousands. It could not then be seen that they were doing any particular injury, but as they

were mating, they would soon deposit the eggs for a brood of slugs which would do their destructive work a little later in the season. At just what other places this insect was noticed it was neglected to record, but at this place they were by far the most abundant. None of the slugs could be found.

Deilephila lineata.—This is one of the most handsome moths and is often attracted to bright lights. It has fore-wings of a buff or light brownish color marked with yellow along the veins of the wings, and with a yellow stripe from the base to the apex of the wing. The hind wings are bordered with black, while the middle areas are of a beautiful reddish pink. The wings expand about two and three-fourths or three inches. Only a single larva of this moth was found and it was feeding on the grape at the expense of Mr. Kellogg at Janesville.

Colopha ulmicola.—This is another of the plant lice, but it lives within a gall which the colonies form on the leaves of the elm. These galls are often known as cocks-comb galls. These insects have a very interesting life-history, as have all of the plant lice, but it cannot be discussed here. This insect was observed upon elm at the nursery of Mr. F. C. Edwards, Messrs. J. M. Edwards & Son, Messrs. Coe & Converse at Fort Atkinson, and Mr. Ferguson (Hawk's Nursery Co.), at Wauwatosa.

Grapta interrogationis.—The adult of this insect is a very pretty, active butterfly and the name "interrogationis" was suggested by the presence of a metallic-like mark on the underside of the wings which bears a close resemblance to an interrogation mark. Another species is known as *Grapta comma* for a similar reason. The caterpillars of the former species were noticed feeding upon the leaves of elm at several places. The caterpillar is fairly well protected by a sparse covering of stout spines, and when feeding usually clings to the under side of the leaf so as to be hidden from its enemies. This insect was observed on the elm in the nursery of Messrs. J. M. Edwards & Son, and Coe & Converse at Fort Atkinson, and what was evidently the work of the same species was seen in the nursery of Mr. Ferguson at Wauwatosa.

Eriocampa cerasi.—This is a saw-fly and hence is not dis-

tantly related to the insect described as swarming around the strawberry plants of Mr. Herbst at Sparta. This insect, however, was not doing injury to nursery stock, but was doing considerable damage to growing cherry-trees on the farm of Mr. Hatch at Sturgeon Bay. Mr. Hatch has quite a large cherry orchard and hence the pest is not one to be disregarded. The slug-like larvae were observed upon the leaves in abundance and in many cases the leaves had been almost completely skeletonized by them.

[A few apple trees in the nursery of Mr. A. Clark Tuttle of Baraboo were found infested with the woolly aphis, *Schizoneura lanigera*. This is a serious pest in Missouri and Kentucky, but does not thrive in our state, probably owing to our severe winters. An unrecognized scale insect was found on some of the pear trees and on a single apple tree in the nursery of F. K. Phoenix & Son of Delavan, but it seemed to be doing little damage. It did not bear a close resemblance to the San Jose scale. It was probably the "scurfy scale," *Chionaspis furfurus*. —E. S. Goff.]

In conclusion, it may be said that so far as possible any allusions to probable remedies for disease or insects have been avoided. The attempt has been to point out the facts as they exist, and to present them in as clear and definite a manner as possible. The problems having been pointed out, the solution will lie in the hands of those whose duty it is to attend to those matters.

Very respectfully submitted,
Franklin Sherman, Jr.,
Acting Inspector of Nurseries.

Forest Home, Tompkins Co., N. Y.,
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